



D< D! Dfj f_fc_m

CVgU
 %"i j cX
 &"?]BhUGYfj Yf
 ' " -byHUzVU
 ("Dfj f_fc_m
)"9X]rcf'UdfY\]UXU
 * "8UHVznU
 + "Nz UXbz'gnbHU
 , "Hnlm
 - "DFYa Ybbf
 %\$"<HA@: cfa i zfy
 %%?"cbYHblm
 %&"J fUmm
 % "CdYfzlcfm
 %("F]UX]UW'dfj Umm
 %) "i b_VY
 %* "HF]XmUcVY_hm
 %&"D<DU: fUz_U
 % "D<DU8UHVzmm
 % "D<D_ i V

5i hcf. [A\]Ub;](#) [UW](#)

FYj]Yk Yf.
 J Yfg]cb. "%\$'XfUzi
 @UghI dXUHY. '&\$\$&! \$+!' \$

NXfc^ \Hrd. ##k k k"d\d"g

8]g_i glU \Hrd. ##k k k"d\d"g #X]g_i g

8ck b`cUX \Hrd. ##k k k"d\d"g #Xck b`cUX'd\d

8c_i a Ybh^Y`WfzbYb `Ui hrfg_ a `nz_cbca "8c_i a YbhUYVc`^Y\c` Ughj`^Y`a cybf`dci y] `Yb`nU` Yca `j `Ughb`f`c`j`nXY`zj`Ub]Uz`fYgd`"nU` Yca `j `i_nz`
 df] ca `a i g`Vm`Yl`d`]WbY`i`j`YXyb `^Y\c`Ui hrf`UcX`Un`bUnXfc`^**fk k k"d\d"g** E"6Yn`d`gca bf`c`dcj`c`Yb]U`bYga]Y`Vm`Xc_i a Ybhdcra Y`cj`Ub `Ub]`
 nj`YfY^`cj`Ub `fYgd`^Y\c` Ughj`nXz`j`Ub`f`dcX`j`Ughb`a `Wdmf][\hca "

1. Úvod

5\c^hZ

j]H^hY`j`fcX]bY`D<D`dfc]`fUa`z`hcfj`"HYbrc`Xc_i a Ybhj`nb]_c`U_c`j`g`YXc`_chznc`_UcXdcj`YXf`bUdfcV`fa`nz`g`_hcf`a`j`gU`bU^`UghY`y]Y`
 ghfYzj`U`nU`fU`Wj`y]j`UHY`]U`dfc]`fUa`z`hcf]`j`g`f]drcj`UW`a`^Umm`i`D<D`B`Ybz`XYH`h`i`j`yYh`michzn`miU]bZ`fa`z`WYz`UY`^Y`j`c`Xb`a`
 nU`]U`ca`U`j`c`Xca`Xc`dfcV`Ya`U`h_nz`_hcf`D<D`df]bzj`U`Df]`f]Ub`f`J`za`dfU`Ya`j`Y`U`h`d`Yn]`j`cg]`U`nXUfi`"

5_`bz`XYH`j`hca`h`Xc_i a YbhY`bYnfcj`bU`cg]`UYVc`^a`zh`nzi`^Ya`Xcd`b]h`c`z`bYj`z`U`hY`U`dcy`]hY`a`U`bU`[a`c`i`UXYgi`"](#)

BYy`gU`V`y]Y`dcbcf]a`Y`Xc`HU`cj`^Umm`U`D<Dz`Vc`c`Vmij`c`Xb`f`bU`dfj`gU`ghf`i`bY`nrcnbza`j`g`^Y\c`\]gh]ci`z`U`gU`h`c`HU`j`VW`Xz`
 dcj`YXU`"D<D`gU`nfcX]`c`b]Y`YXmj`fc_i`%`-`(`U`j`nb]_c`U_c`dfc]`fUa`j`DYf`Yz`_hcf`g`y]`bU`Yj`]XYbWj`df]gh`i`dcj`_`K`K`K`g`fz`b`Ua`dz`bU`
 FUGa`i`gU`@Yf`Xcf`Zz`_hcf`Vc`^Y\c`d`j`c`Xb`a`Ui`hcfca`"BU`c`_c`j`yU`DYf`U_c`]bhYdfYrcj`Ub`^Umm`df]j`Ya`]nU`Uycj`U`K`K`K`g`Yfj`Yfz`
 Ui`hcf`g`c`^gc`Zk`UFY`dfYd]gU`Xc`^Umm`U`7`Dc`gh`i`dbY`c`dci`y]j`Uc`cf`Un`j`]UWi`Xz`g`z`j`U`gU`j`]UWU`j`]UWc`V`VYb`Y`Ya`U`Ui`hcf`Vc`Xcg`cj`U`
 Xcb`hYb`j`nKU`_`g`c`a`i`X`Y`_i`Xc_i`a`Ybhz`Wj`"Gng]fa`Vc`bYg`f`fcny`f`Yb`c`dcy]UXUj`_m`^Y\c`dci`y]j`UHY`cj`U`Vc`i`j`c`bYb`dc`X`bz`nj`ca`
DYfgcbU`<ca`YDU`YHc`g`"Dc`nU`mi`Xc`j`Ub`f`GE`@`a`c`Xi`i`z`_hcf`i`a`cy`cj`U`D<D`gdc`i`dfUW`j`U`g`XU`H`V`zn`Ua`j`U`j`nj`z`fU`Z`fa`i`z`fY`gU`
 bzncj`na`Yb]`bU`DYfgcbU`<ca`YDU`Y`cfa`=**bhYdfYHf`D<D#`**="HYbrc`gng]fa`j`nb]_c`U_c`_ca`d]zhdfj`clb`f`c`D<D`U`dfc]`fUa`i`z`
 _hcf`gdf]gh`i`d`cj`U`j`g`YX`miXU`H`V`zncj`W`Xcd`nrcj`bU`K`Y`Y`f`f`cfa`=**bhYdfYHf`E`HU`j`nb]_c`D<D#`**=&"\$`J`fc_i`&\$\$`Vc`U`j`nXUbz`
 dcg`Y`Xbz`j`Yfn]U`fU`XmD<D`"I`"C`dfch`g`c`Ja`dfYXWcXW`a`gU`W`gng]fa`nf`W`j`U`fcny`f`j`U`_cdYW`nbnW`Z`b`Wj`8bYg`bU`UghY`y]Y`
 dci`y]j`Ubz`j`Yfn]U`D<D`Y`j`Yfn]U`("I`z`_hcfY`nz`_UX`h`j`c`f`UX`fc`g`bz`nj`ca`**Nbx`"**

Dfj`UX`%`%`Dfj`dfj`UX`

```
..%
..&O\ha `2
..` O\YUX2
..( `O`hY2Df`_ UX0 #hY2
..)` O# YUX2
..* `O VcXn2
..+ `O3d\d`YWc`< |žGca `D<D`gWjdh`/`32
.., `O#VcXn2
..- `O#ha `2`
..%$
```

D<D'gU'ha h'`y]cX'7; =g_fldrcj`bUd'gUb`W`j`DYf`Y`UYVc`7`^Um`i`!!`bUa`jYgr`d'gUb]U'a`bcyg]U`_`Cxi`dfY`j`dlg`<HA@gH`f`bUd'gU`<HA@_`Cz'a`YXn]`_lcf`^Y`nU`ca`dcbcj`Ub`df`i`Un`D`D`fl`lcf`_j`lra`h`df`d`UXY`j`nd`y`Y`H`l`H`"D<D`_`C`g`U`n`U`b`U`U`_`cb`_`f`y`d`Y`W`z`bna`_`y`H`f`rc`j`U`W`a`_`U`i`_`cb`_`cj`U`W`a`_`H`U`l`ca`_`O3d`d`U`32`_`lcf`_`i`a`cy`b`f`g`c`_`|`Xc`_`Un`D`<D`a`Cxi`"5^`_`Y`_`^Y`rc`g`W`ga`j`y`b`Y`!`_`UY`l`z`l`c`_`f`H`U`_`Um`_`U`i`a`cy`b`f`n`U`j`U`rc`_`b`l`ca`_`d`g`U`_`f`_`W`c`j`_`_`cbb`f`D`<D`#`HA@gfz`b`_`m`!`_`UY`d`f`j`g`d`f`z`j`Y`_`Cxi`_`^Y`rc`_`j`_`Y`a`_`j`b`y`_`U`g`b`f`_`f`j`y`b`j`Y`""

c`c`X`j`i`^Y`D`<D`c`X`>U`j`U`g`W`j`d`h`i`^Y`z`y`Y`h`y`b`l`c`_`^U`m`_`^Y`j`_`m`_`c`b`z`j`_`U`b`_`b`U`_`g`f`U`b`Y`_`g`Y`f`j`_`Y`f`U`"5`_`g`U`_`g`d`i`_`g`h`f`D`<D`g`_`f`d`h`b`U`_`g`Y`f`j`_`Y`f`z`_`j`_`Y`b`l`g`_`d`f`Y`_`j`U`X`U`_`V`m`X`c`g`h`U`_`_`Y`b`j`_`_`g`Y`X`c`_`V`Y`i`_`g`_`f`d`h`i`_`z`_`cb`_`f`f`b`Y`_`ca`_`d`Y`b`_`_`g`f`U`b`i`_`j`_`^U`m`_`i`_`<HA@`>`_`U`m`_`i`_`<HA@`f`c`n`i`_`a`_`j`_`Y`_`g`_`c`f`c`_`_`U`y`X`_`d`f`Y`_`j`U`X`U`_`z`_`c`_`g`U`c`_`_`j`_`Y`b`h`g`X`Y`_`g`_`f`d`h`c`W`_`U`_`_`a`_`^Y`_`b`U`d`f`i`_`U`X`>5J5G7F=DHdcj`Y`X`U`_`b`Y`X`z`"

J`Y`f`n]U`^U`X`F`U`D`<D`z`_`lcf`f`^Y`j`_`m`_`j`_`U`b`f`_`dc`X`_`Cxi`_`c`_`j`_`a`_`b`z`r`j`_`c`a`_`N9B8`^Y`r`z`_`U`X`c`a`_`h`c`_`l`c`_`d`c`d`i`_`z`f`b`Y`_`c`_`g`_`f`d`l`r`c`j`_`f`_`c`_`^U`m`_`U`i`_`y`_`c`_`X`_`j`_`Y`f`n]Y`D`<D`_`("S`"8`b`Y`g`^Y`N`y`b`X`j`_`c`_`j`_`Y`f`n]`_`&`S`'a`_`c`a`_`Y`b`l`z`_`b`Y`i`_`y`_`h`Y`_`c`i`_`j`_`Y`f`n]c`i`_`_`U`X`F`U`D`<D`_`D`F`Y`X`W`z`X`n`U`_`_`W`j`_`Y`f`n]U`N9B8`i`_`_`f`j`_`Y`f`n]U`%`S`L`V`c`_`U`d`c`g`l`j`_`Y`b`z`_`b`U`_`f`c`j`_`b`U`_`_`W`_`d`U`f`g`c`j`_`U`W`W`_`d`f`U`j`_`j`X`z`W`_`U`_`c`_`g`_`f`d`l`r`c`j`_`U`W`Y`_`U`X`f`c`_`D`<D`"l`z`_`lcf`f`a`_`_`X`b`Y`g`_`n`j`_`m`_`b`Y`a`_`Y`_`c`j`_`c`f`_`N9B8`_`S`")`"H`c`_`g`W`i`_`a`_`c`y`b`j`_`c`_`j`_`Y`a`_`j`_`U`_`f`_`a`_`j`_`f`c`j`_`U`b]Y`f`d`f`Y`W`c`X`L`n`j`_`Y`f`n]Y`D`<D`"l`_`b`U`j`_`Y`f`n]i`_`_`("S`z`U`Y`r`z`f`c`j`_`Y`_`n`a`_`Y`a`_`c`y`_`i`_`^Y`_`_`U`y`f`j`_`_`j`_`c`_`^`_`U`m`_`U`"

2. Klient a Server

D<D'gU'a`c`h`b`f`z`b`l`i`^Y`U`_`c`_`g`_`_`U`g`_`i`f`_`j`h`f`_`c`_`g`n`g`h`f`a`_`i`z`_`lcf`_`_`l`j`_`c`f`k`Y`V`c`j`_`_`g`Y`f`j`_`Y`f`z`D`<D`_`U`X`f`c`_`U`d`f`Y`_`j`U`X`U`"8`c`d`c`f`i`_`i`_`Y`a`_`r`z`f`c`j`_`Y`_`b`U`j`b`y`h`U`c`j`_`U`_`^`X`H`U`V`z`n`c`j`_`_`g`n`g`h`f`a`"

....=b`h`f`b`Y`l`c`j`_`_`g`Y`f`_`Y`f`<H`D`^Y`d`f`c`[`f`U`a`_`z`_`lcf`_`_`g`U`a`_`_`y`Y`_`g`d`i`_`g`h`_`_`b`U`_`i`_`V`c`j`_`c`_`b`c`a`_`_`d`c`_`_`#`U`_`j`_`d`f`d`c`_`Y`b`c`a`_`_`b`U`_`=b`h`f`b`Y`h`i`_`D`f`Y`r`c`y`Y`^Y`X`Y`b`_`_`d`c`_`_`#`U`_`_`a`_`_`y`Y`_`d`_`b`l`_`_`_`c`_`_`_`i`_`_`j`_`j`U`W`f`_`_`W`_`_`g`Y`f`j`_`Y`f`c`j`_`z`_`g`_`_`j`_`_`f`z`a`_`_`W`_`_`c`a`_`_`i`_`b`_`l`_`U`_`b`_`f`_`c`_`d`f`c`l`c`_`c`_`i`_`_`n`U`_`Y`X`Y`b`f`_`l`n`j`_`_`d`c`f`m`i`_`D`c`f`m`i`l`j`_`c`f`j`U`d`f`i`g`h`i`_`d`c`j`_`f`_`_`V`c`X`n`z`_`g`i`_`y`V`n`i`_`K`_`Y`V`_`g`Y`f`j`_`Y`f`_`f`b`U`_`_`j`_`_`U`_`_`n`j`_`m`_`U`_`b`Y`_`b`U`_`d`c`f`h`Y`_`_`S`"?"`_`h`c`a`_`_`h`c`_`d`c`f`l`i`_`_`H`U`_`_`h`Y`y`_`g`a`_`_`Y`f`i`_`_`^`_`d`c`y`j`U`X`U`j`_`_`m`_`_`j`_`Y`b`l`c`j`_`_`"5`V`m`i`g`Y`f`j`_`_`Y`f`_`_`a`_`_`c`_`_`_`c`_`_`_`g`_`_`_`U`g`b`Y`_`c`V`g`i`_`_`c`j`_`_`U`_`_`j`_`j`U`W`^`_`_`j`_`Y`b`l`c`j`_`z`_`g`_`_`y`l`_`d`c`f`h`i`_`_`S`_`j`U`d`f`Y`_`b`U`X`j`_`j`U`n`U`b]Y`_`g`d`c`_`Y`b`j`U`_`d`f`Y`b`c`g`_`X`z`h`i`d`f`Y`V`j`_`_`U`_`b`U`_`b]Y`_`l`c`f`c`a`_`_`n`d`f`z`j`_`_`Y`_`_`j`_`_`c`_`_`b`_`_`W`_`_`d`c`f`h`c`j`_`_`"J`_`U`F`W`j`h`_`h`_`r`_`f`Y`_`_`j`_`Y`b`h`g`Y`f`j`_`_`Y`f`_`l`j`_`c`f`k`_`g`Y`f`j`_`_`Y`f`c`j`_`_`_`g`f`U`b`i`"

....8`U`H`U`V`z`n`c`j`_`_`g`n`g`h`f`a`_`^Y`d`f`c`[`f`U`a`_`_`lcf`_`_`g`_`_`y`l`_`d`f`Y`_`d`f`z`W`_`_`g`_`X`z`h`U`a`_`_`j`"G`d`c`i`_`d`f`U`W`_`^Y`d`c`a`_`_`c`W`i`_`_`b`U`h`j`_`_`b`n`W`_`_`X`F`U`j`_`_`f`c`j`_`_`U`Y`V`c`_`C867`_`_`j`_`>867`_`_`f`c`n`_`f`U`b]U`_`g`_`k`_`Y`V`c`j`_`_`a`_`_`g`Y`f`j`_`_`Y`f`c`a`"

....D`f`Y`_`j`U`X`U`_`_`U`Y`V`c`_`_`V`f`c`k`_`_`g`Y`f`_`^Y`d`f`c`[`f`U`a`_`_`z`_`_`lcf`_`_`_`g`_`_`_`y`l`_`_`b`U`_`n`c`_`V`f`U`n`Y`b]Y`_`X`z`h`b`U`_`_`g`f`U`b`Y`_`_`j`_`Y`b`h`U`"

5`f`W`j`h`_`h`_`r`_`f`U`_`_`j`_`Y`b`h`g`Y`f`j`_`_`Y`f`_`_`Y`_`n`U`_`c`y`_`Y`b`z`_`_`b`U`_`b`U`_`g`_`Y`X`i`_`_`^`_`W`^`_`a`_`_`n`y`_`j`_`Y`b`_`_`Y`_`_`X`z`H`U`_`V`m`i`g`U`_`_`a`_`_`U`j`_`_`g`d`f`U`W`j`_`_`z`j`_`_`U`_`_`d`f`Y`X`c`j`_`_`y`Y`h`_`_`_`a`_`_`_`H`l`a`_`_`z`_`_`X`Y`_`_`g`_`_`_`_`_`X`l`g`d`c`n`i`_`_`W`j`"H`c`_`n`b`U`a`_`_`Y`b`z`z`_`y`Y`_`d`c`_`_`j`U`_`_`b`j`_`_`g`_`_`_`i`_`_`c`y`_`Y`b`f`_`_`b`U`i`_`_`y`j`_`_`U`h`_`_`g`_`_`Y`^`_`g`_`_`h`l`b]W`z`_`b`Y`a`_`_`U`j`_`_`V`m`i`g`U`_`_`h`l`a`_`_`_`g`d`f`U`W`j`_`_`z`j`_`_`U`"D`c`_`_`j`U`_`_`j`W`_`_`U`Y`i`_`_`y`j`_`_`U`h`_`_`_`W`W`_`_`g`d`f`U`W`j`_`_`z`j`_`_`U`_`_`n`c`_`_`_`g`_`_`c`_`_`Y`^`_`g`_`_`h`l`b]W`z`_`_`a`_`_`U`_`_`V`n`i`b`U`g`_`_`d`l`_`_`X`Y`_`_`V`U`_`d`f`z`W`!`_`_`a`_`_`Y`X`n`j`_`_`a`_`_`j`Y`g`r`c`a`_`_`i`_`_`c`y`_`Y`b]U`_`X`z`h`U`i`_`_`y`j`_`_`U`h`_`_`g`_`_`c`i`_`_`d`f`U`W`j`_`_`b`c`i`_`_`g`h`l`b]W`i`"

J \cXmgdca #bUbY^UFW]hY_hr fmig• dfYXcj yYh_ a`nUa YXnYb]Y^fYXi bXUbV] XzhfXzHU`g• i`cYbYf`Wbhfz`bYEdf] nUWcj Ub#a cybcghj]UW
i yj UhY_g_f^c`dfigh di`nUYl ghYbWY`j]UWl yj UhY_g_f^c`gdfUWj zj Ub]U`Xzh`7Ybhfz`bna` Ugh]Ua z`hcf`cVgU`i`^`XzHU`U`dgc_nhi`^`]W`bU
gdfUWj Ub]Y`i`yj` UhY`ca` \`cj`cf`a`Y`gYj`Yf`BUcdU`i`yj` UhY`g`a`ghUb]Ua z`hcf`fj`nyUXi`^`gi`yVmgYfj`Yfi` \`cj`cf`a`Y`_`]Ybh`H`a`hc`
XcghUbYa`Y`bzncj`W`Y^UFW]hY_hr`fm`_`]Ybh`#`gYj`Yf`"?]YbhU`gYfj`Yf`dfUW`^`bU`gYVY`•`d`bY`bYnzj`lg`Y`"

J`XcVY`fena`UWi`Vi`Xcj`Ub]U`]bZ`fa`U`b`W`gng`hfa`cj`nU`cyYb`W`bU`j`ni`y]h`cgcVb`W`dc`#U`cj`z`Vc`c`a`cybf`nUW`nhi`hYbXy`bWY`
a`c`i`hb`f`c`dfY`Wc`Xi`_`hY`Wbc`Q`E`]]`_`]Ybh`#`gYj`Yf`"BU`UghY`y]Y`g`i`j`z`Xn`Ub`f`hY`hc`X`j`c`Xm`."

...Nj`yYbz`ZY`]M`]hU`U`f`W`cg`j`j`c`^U`d`_`L`z`V`#`

H`hc`^Y`X`Ub`f`g`i`hc`bcg`ci`z`yY`Ug`nc`X`dcj`YX`bcgh`nU`gdfUW`j`Ub]Y`^Y`dfYbYgYbz`bU`gYfj`Yf`">YXbz`gU`dfYXcj`yYh_`a`c`df`igh`d`_`Xz`H`La`z`
nU]ghYb]Y`]W`]bhY`[`f]`hmU`Xc`Xf`y]U`j`Ub]Y`dfU`j`]X]Y`dfY`dfz`W`g`b`la`]`Dfzj`Y`h`a`z`yY`_`]Ybh`a`'`yY`j`ni`y]U`h`Y`hc`gi`yVmgYfj`YfUz`bYa`i`g]U`Vm`
]a`d`Ya`Y`b`hc`j`Ub`f`bU`_`]Yb`lg`Y`^`g`f`Ub`Y`U`h`a`^`Y`]W`_`Q`X`^Y`X`bc`Xi`W`y`#`U`U`y`]Y`j`ni`y]`cfYb`_`U`a`c`X]Z`cj`UhY`b`"

...Nj`yYb]Y`VYndY`bcgh`gng`hfa`i`_`

6YndY`bcg`gng`hfa`i`^Y`a`cybf`Xcgl`U`bi`h`a`z`yY`dfcgh`]YX`mdf`igh`di`_`Xz`H`La`z`U`c`]`nU]ghYb]U`]W`]bhY`[`f]`hmU`_`c`bn]ghYbWY`g`_`
]a`d`Ya`Y`b`hc`j`Ub`f`bU`g`f`Ub`Y`gYfj`YfUz`U`hY`XU`bYa`'`yY`X`^`g`_`]W`c`V`X`Y`b`]i`bU`g`f`Ub`Y`_`]YbhU`"

...=bhi`h]j`bY`y`#`j`j`c`^U`dfYj`z`Xn`U`

Dci`y]h]Y`hY`Wbc`Q`E`]Y`_`]Ybh`#`gYfj`Yf`Vc`c`c`X`nU`]U`h`i`gdc`^Yb`f`g`dci`y]h`a`]bhi`h]j`bY`c`[`fUz`W`f`c`i`y]U`UhY`g`f`c`dfcgh`fYX]U`fi`I`#z`_`hcf`f`^Y`
i`a`]Yg`b`Yb`f`bU`_`]Yb`lg`Y`^`g`f`Ub`Y`"

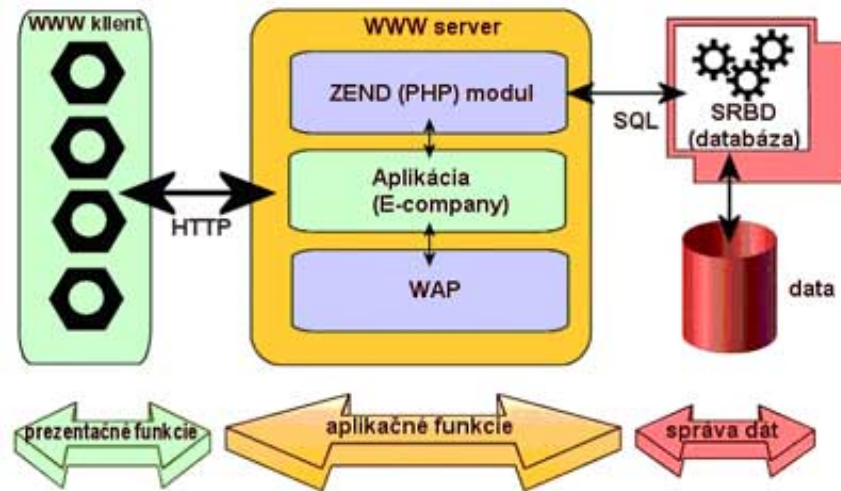
...@Ydy]U`]bhY`[`fz`VU`gng`hfa`i`_`

Dfc`W`g`_`]YbhU`a`'`yY`b`U`f`Un`j`ni`y]U`]bZ`fa`z`WY`n`b`]Y`_`c`_`W`gYfj`Yf`cj`z`VYn`hc` \`c`U`V`mg`U`a`i`gY`dfYd`#bU`a`YXn`]b`]Y`_`c`_`a`]gng`hfa`Ua`]`"

...Dc`X`dc`f`U`X`Y`W`b`f`U`]ncj`Ub`W`cf`[`Ub]nU`b`W`y`fi`_`h`f`_`

BU`f`cn`X]Y`c`X`U`f`W`]hY`_`h`r`fm`i`c`gh`h`y`fa`]bU`d`cg`nhi`^Y`Z`cnc`Z]U`_`]Ybh`#`gYfj`Yf`ca`bc` \`c`Ydy]Y`a`cybcgh`bU`dfY`Wc`X`c`X`W`b`f`U`]ncj`Ub`f`c`_`
i`c`yYb]U`Xz`h`_`gdfUW`j`Ub]i`U`i`c`yYb]i`Xz`h`H`La`z`_`XY`^Y`hc`bU`j`_` \`c`X`b`Y`y`]Y`":`m]W`f`i`c`yYb]Y`Xz`h`^Y`df]h`ca`dfY`i`y]U`UhY`U`•`d`bY`
h`f`U`gd`U`f`Y`b`b`f`"

BU`c`V`f`zn`i`%`j`]X`]a`Y`h`md`]W`_`df`_`_`UX`]bhY`f`b`Y`hc`j`Y`^`U`d`_`L`z`V`Y`h`md`i`_`]Ybh`#`gYfj`Yf`"



CVF"%!_'Ybh#gYfj Yf

Gd' gcV'dfzW'g'cV^Y_HLa]Vc`j `bcj Y^j Yfn]]'UXFU_ca d'YhbY'dfYdfUWj Ub "'Na Ybnidf]bzýU'• `b]Y'Yb`bcj f'Z b_VWžUY'U`nj ýYb]Y' j _cbi "

DfYX' Uýřa ` ĤUbřa `řc`řc`Xc_i a Ybhi `cXdef• Ua `bU]býHÚcj U `D<D'bU'Jzý'dc ĤU ž'dfYřc `a z' Uý]U_Ud]řc`U'bzncj ""

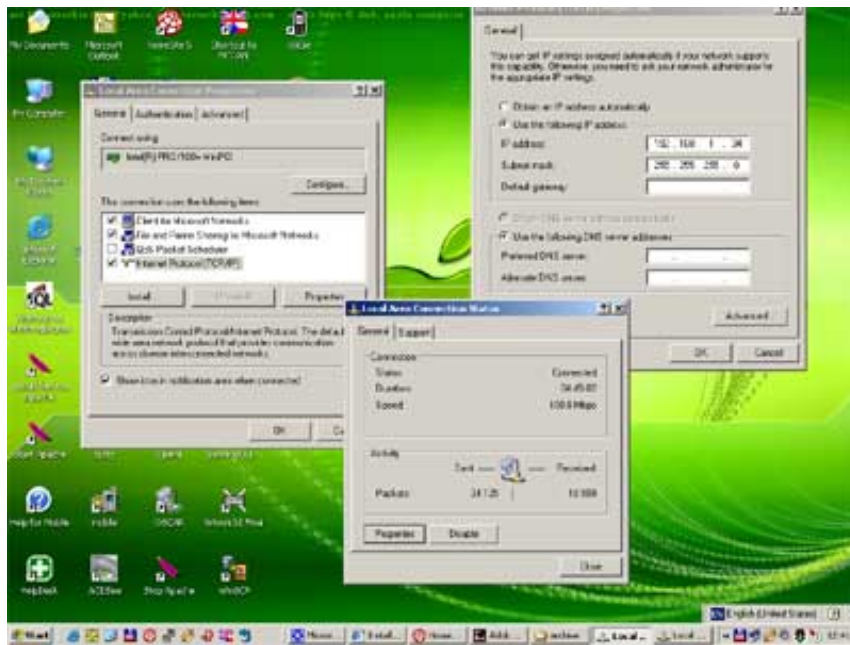
3. Inštalácia

DfYXdc_UXU'a YžýY'D<D'Vi XYh' dci ýř U `dfY'j j c^j `Ugb W `]bhřfbYřj W `Ud`_zVř" DfYřc `Y'bi Ĥbf`bU]býHÚcj U `b]Y'Yb`gUa cĤbf`D<Dž UY'U`K YV`gYřj Yřž XUHVzncj `gYřj Yf`U`dfY`]UXU "'NU bYa Y`]býHÚzVři `dcXcdYřU b a `gřhřfa `A]WcgcZiK]bXck g"

Microsoft Windows

5_`dci ýř Uřh`gřhřfa `AG`K]bXck g') žU_h U]ni `řY`g]gY`cj • j fgj i `K]bgcW`bU'j Yřni]&'5_h U]nU b `g• Vcf`bz`XYh`bU`gřzb_UW` [A\]WcgcZi](#) "

DfY`gdfzj bY`Z b] cj Ub]Y`K YV`gYřj YřU`Y'bi Ĥbf`a U `g]Y`cj • `dcXdefi "'Cj Yřh`řgž]`Jzý'dc ĤU `a z`=D'UXFYgi žřYgd" X]gdcbi `Y`g]Y`cj `a `nUř]UXYbřa " GHU ř]g]Y`cj z`_UřH`U`YVc`a cXYa "'DfY`Z b] cj Ub]Y`Xca zW`c`K`K`K`gYřj YřU`bYa i gřh`řVm`df]dc`Ybř`bU`]bhřfbYři `Ai`gřh`řg` j`ýU`_bU]býHÚcj U `dcXdefi `dfY`H7D`#`=D`dfřc`c``řdenř]`cVř`&L



CVF" &!`G|Y cj z j fg|j U'Udfchr_c`H7D#-D

>YXbcXi Wf`cj YfYb|Y'Z b_ bchg|H7D#-Ddfchr_c`i . J`c_bYg\Y`i`fW a UbX'Wa žW X'Yl YLbUdyh' d|b|`%&-"S"%"UcXdcj Y ci`Vm
 a U`Vm'gdfzj Ufyd`niZca """"U_c`bUcVf""



CVF""`!`d|b|

DfY`|by|UzW|`D<Džk YVcj f`c`gyfj YfU5dUWY`UXUHVzncj f`c`gn|g|fa i`AME@ga Yj nj cf|]`VU|`D<D<CA9">Y`c`gdi gh|ba`bU`g`c`Y`
 D7`bU|by|H|`YH`rz`_`UX`f`_ca dcbYb|mdfYj`j`c`^`Ud`_`z`W|j`D<D`Drc|fUa`U`i`lca`U|W`mig`cbZ|`i`fi`Y`j`y`h`midchfYVb|f`bzg|fc`Y`Dfc|fUa`
 Y`a`cyb|f`gh|U`bi`gl`n`kkk`d`d`g`_UYVc`gU`bUWzXnU`bU`78`D<D`_`i`Vi`f|Hd`##kkk`d`d`g`#Y|lgfU|U`d`dL



CVF"('!_cbZ[i fU b 'X]UQĚ 'D<D<ca Y&

Dc`•gdYybY^]býHuzWj`_]_bYa Y'bu]_cb_i`HYghAmiD<D'UYVc`bUdýYa Y'Xc`c_bU'dfY\]UXU U'IF@` _Htd. ##%&+ "S"S"%U'a U'U'vmigU'ncVfUn]`
 bUyU'dfj z`hygrcj UMUD<D'gfbz_U"K YV'gyfj Yf'a i g'gUa cnfY'a Y'VYyU ž`c`Y'df]'5dUWY'g[| bU]rcj Ubf'a Uci`n'Y'beci`ýtd_ci`j`]_cb_Y`
 UdUWY'a cb]rcf`j` gngfUn!

Dcnbza _U` ð'DUXfYgU%&+ "S"S"%U`cW\`cghig`U]UgmdfY`c_z`bi` ð'DUXfYgi` "

OS Unix/Linux

CdYfU b` gnghfa`dfY'dfUj` W'a i ýcj`U'ýYbmi a cýbi`Y'dfYj zXn_cj U`g'i ýVmiU'a cXi`nž`_hcf'f'dcX'CG'K]bXck`g'Ub]'bYI]ghi`^`"DfcWg`
]býHuzWY`U`_cbZ[i fzWY'b]Y`Y'hfj]z`bnž`fUX]a`j`ýU`_Vi`_`_ca`d`YbY'dci`ý]'FDAž896`VU†`_miUYVc`j`ýYh`c`fi`bY`_ca`d]`cj`U`"8fi` \z`
 a`cýbcg`Y'j` \cXbz`dfY'dfUj` W`Yl`dYfrcj`U`"]bhýfbYh[i fi`""5^`U'dci`ýj`Ua`Yb`fi`b`_ca`d]zWj`'5dUWYžD<D'U^AMGE@`

→býHuzWUj`g_fUh_Y`fU_c`a`cXi`""5dUWYŁ`

```
%"[ i bn]d`UdUWYS&'S"l`"Hf"[ n
&'Hf`l`j`ZUdUWYS&'S"l`"Hf`
' "[ i bn]d`d\`d!`("S"l`"Hf"[ n
("Hf`l`j`Zd\`d!`("S"l`"Hf`
)"`VX`UdUWYS&'S"l`
*""#WbZ[ i fY!!dfYZ] 1 # gf#cW#UdUWY`
+ "`VX`""#d\`d!`(" &'l`
, ""#WbZ[ i fY!!gngWbZ]f1 #YhW!k ]h!a nge`!!k ]h![ X!!k ]h!UdUWY1 ""#UdUWYS&'S"l` !!YbUVY!hfUW!j`Ufg`
- "a`U_Y`
%S""a`U_Y`]bgU`
%&""VX`""#UdUWYS&'S"l`
%&""#WbZ[ i fY!!dfYZ] 1 # gf#cW#UdUWY!!UMj`Uh!a`cXi`Yl`gfW`a`cXi`Yg#d\`d`(#]Vd\`d`("U`
%`"a`U_Y`
%( "a`U_Y`]bgU`
```

DfYX'h a hc'_fc_ca 'a ' yYh'dfY_cd|fcj U '\HrdX'V]bzfbnig• Vcf'Wn'i y'Yl |ghi ^W/j Yfn|j "BYnUVi Xb]h'j yU_ 'dfYXh a 'j n|b• 'K K K 'gYfj Yf''

% "VK #YhW

% "W'd\d"b]!X|ghid\d"b]

HfUn'YX]h 'h' #YHw\d"b]g• Vcf'U'bUghUj h'Y'D< D'j c Vn'i'5_ 'WWH'a U 'h'blc'g• Vcf'j]bXYZ'dci y]h'Y'
!!gngWbZ]f1 #WghUj '_fc_i ', "

% "9X]h 'h'\HrdX'WbZU'df]XU'h'

5XXHndY'Udd'jW]hcb# !\HrdX'd\d"d\d"da ""d\d' "d\d('

H 'a ' yYh'bUghUj] 'df]dcbnž'_hcf'Vi XY'D< D'gdfUWj zj U "

% "Dci y]h'bcfa z'bnigd' gcV'nUghUj Yb]U'U'gdi ghYb]UK K K 'gYfj YfU'5dUWY'b]Y'Yb'<I D'UYVc'I GF%g|] bz''

VK#i gf# cW#UdUWY#v]b'

UdUWYVh'ghcd'

UdUWYVh'ghfhi

Df]_UX]b]hUzV]dcXCG'@-BI L'SYW]Ub

DfYXdc_UXza žyY'a za 'gYfj Y' df]dc^Yb '_]bhYfbYh "'5_hi U]ni ^Ya 'X]ghf]V• V] 'df]_Unca

. Uhd! [Yhi dXUH
. Udh [Yhi d] fUXY

U'dcgli dbY'_ca d]i ^Ya 'YXbch]j f'a cXi 'n'i'BYnUVi XbYa 'Wn'Udh [Y'hgh]U'bi 'dchfYVbf'_b]yb]WZ'U_ 'W VU^ '\Uj]_cj f'g• Vcfmifl "\L'HU_'
U^]W'X]j 'j Yfn]Y'"Df]_UX^Y'^]V[X&U'^]V[X&XYj

. Udh [Yh]bghU''^]V[X&

Bzncj '_b]yb]W'gU'Xz'n]gh] 'bUdf]_UX'bU'[kkk"XYV\]Ub"cf\]](#)]_gY_V]dUWU[Ygždf] ca 'j mÀ UXzj Ua 'j yYh_mifU_ 'h'gh]b[L'VUž'_n]

%'AMGE@

. 'VK #ha d#a nge`
. "'#WbZ[i fY'!!dfYZ] 1 # gf#cW#ha nge`!!gngWbZ]f1 #YH!k]h!WUfgYh] k]b%&) S
. "#a U_Y
. "#a U_Y']bghU`
. 'VK''''

&'CD9BGG@!'GG@nU_UX

. 'VK'cdYbogg`

· "#WbZ[
· "#a U_Y
· "#a U_Y]bgU`
· "X""

AC8GG@

W`a cXgg`
GG@S65G91 # gf#cW`#gg`
Yl dcfhGG@S65G9
"#WbZ[i fY!!k]h! UdUWY1 ""#UdUWYS%" "& !!k]h! gg`1 ""#cdYbgg! S"- "*"X#!!dfYZ[1 # gf#cW`#UdUWY

D<D("&1
W`d\d!("11

"#WbZ[i fY!!k]h! UdUWY1 ""#UdUWYS%" "& !!k]h! a nge`1 # gf#cW`#a nge`!!k]h! [X!!k]h! HZ!! gngWbZ[Xf1 #YhW! X]gUVY! XYVi [!!YbUVY! hfUW! j Ufg`
!!k]h! dXZ]V1 # gf#cW`#dXZ]V!!k]h! dY[!Xf!!k]h! n]V! Xf!!YbUVY! [X! bUhj Y! HZ!!k]h! hZZ Xf!!YbUVY! Zd!!YbUVY! gcWYfg`
a U_Y
a U_Y]bgU`

5D57<9`%" "&*

W`UdUWY
"#WbZ[i fY!!dfYZ[1 # gf#cW`#UdUWY!!UMj] Uh! a cXi `Y1 gfW`a cXi `Yg#d\d(#]Vd\d("U!!YbUVY! a cXi `Y1 gg`!!YbUVY! g`UFYX1 gg`
a U_Y
a U_Y]bgU`

Ugdi gh`a `5dUWY

#Yh#b]hX#UdUWY ghUfhUYVc`#i gf#cW`#UdUWY#V]b#UdUMf`ghUfh

?cbZ[i fzV]U<D`

G• hi `Xj Y`a cybcgh!"

Dci j]hY`gYhi d`g_f]dhi ž_hcf `Ydf]VUYb ` _D<D`G_f]dhigU`dcjUXi `YcXdcj YXU `bU`clzn_mUj n] YbYhi `Y`AU_Y:]Y`G_f]dhigdi gh]Y`
df]_Unca ""#gYhi d"

G_f]dh]Yj n] YbYhi `Y`g`Vcf`Xc! WbZž_hcf `cVgU`i `Yj c VmdfYXUbf`WbZ[i fY`A` jYh`hYbhc`g`Vcf`a Yb] `VYn`gd`j]Lb]U`gYhi di ž`gU`ž
bUdgU ""#Xc! WbZU`gdi g] `WbZ[i fY`g`bcj` a]j c VUa]"

Fi `bf`gdi gh]b]Y`**WbZ[i fY**" JjYh_ma cybf]j c Vmj nd]Y`**"#WbZ[i fY!!`Yd"**

DcXfcVbYj]Y`Y`a cybf`bUgUj] `D<Dj`_cbZ[i fU b W`g`VcfcW`d\d"]b]U`hdX`WbZ

4. Prvé kroky.

Df]]b]hUzV]D<D<ca Y`ga Y`bU]b]hU`cj U]U`XUHVzni `AMGE@`DfY`Y`gdfzj i `g`j]UXa]b]ghfz]hcf`g_ `bzg]fc`[d\dAn5Xa \]b`](#)
bUdfc[fUa cj Ub `j `D<D`

...Cj Yfa Yglz j VYjUXUYa cbmidfYk VVcj gYfj Yf UdUWYU XUHVzni a nge"

K jbxckg j gngYa HUma i gU Vm nY Ybz j b_cb_Unc gYa Uz fca UnY Ybci yd_ci "
I bjl . dca cWi dfi Uni dgUi l

Gdi gha Yj dfY jUXU j j cXb hghcj UW ghfzb_i "D< DdUfgi YfgdfUWj zj Ue Yb ghfzb_nz_hcf f dfYy WnfcnfubjYK 96 gYfj YfUz HU_yY
D< Dg_f dhj bMU ni Ya Yfgdi gha YLj yXm Yb dca cWi Yc j bhYfYrcj Y^I F@UXYgm

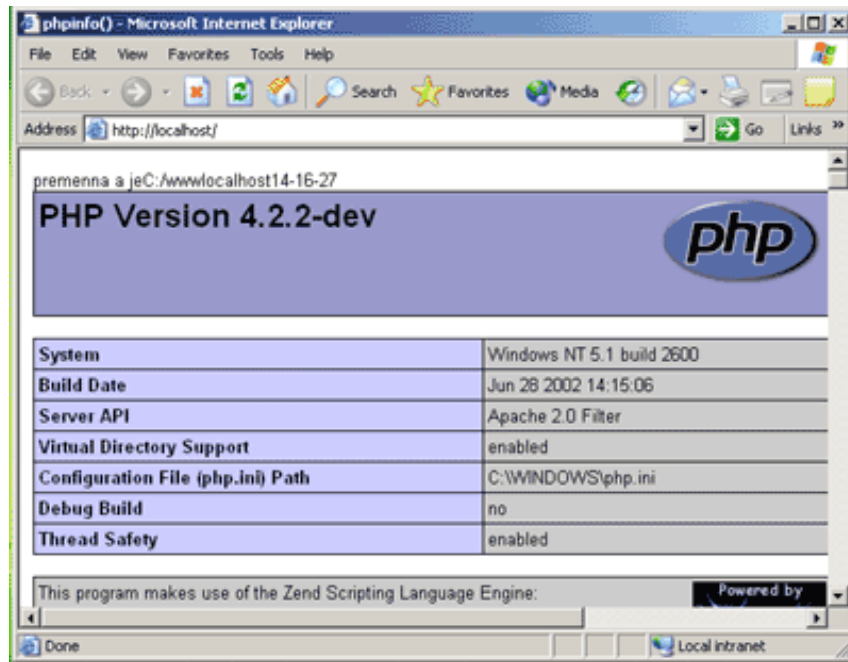
- [\Hd. #cW\cgh](#)
- [\Hd. #cW\cgh#d dAn5Xa j b](#)
- [\Hd. #cW\cgh#bXl "d\d](#)
- [\Hd. #cW\cgh#dfc Y l fca Yl U#Ygh'd\d](#)

? dUfgej Ubi gUa cnfYa YbYX XYZ_U g f dhinUj c za Y dca cWi Yc z bY UXFYgmj g Vcfcj ca gngfa Yz U_c bUdf"

[7. Rk k k FUXFYgUfScbYHgh'd\d](#)

Gdfzj bYj c Ubj Y Y

[\Hd. #cW\cgh#UXFYgUfScbY#Ygh'd\d](#)



DfY hghcj Ubi Y cbZl i fz WY D< DgU dci yj U Z b_WU d djbz fl" DfYrc U_c dfj bUcnUghb dfi UX dci yj Ya Yh rc Z b_Wj bUj mdg Ubi Y
_cbZl i fU b W bUghj Yb D< D'

Dfj UX (!% Hgh'd

03d\d

..##bUd]g'j`bchYdUXY'U'i`cn'Xc'k'YVej'f'c'UXFYgUfU'U_c'gi'Vcf`
.....hYgh'd\d'fdencf`b]Y'hYgh'd\d'H H.

..d\d]bZfL/

.....32

Dc'i`cyYb†g•Vefi`Xc'k'YVej'f'c'UXFYgzfU'fdencf]\`hdX'WbZ'X]fY_hj i`**ScWa YbFclh**'bUdf"
8cWa YbFclh~7. #k k k`~Y'k'YVej`UXFYgzf`[Wk k k](#)L'gdi gh'hYgh'd\d'Wn'dfY\`JUXU

[\Hrl.#cWU\cgl#Ygh'd\d](#)

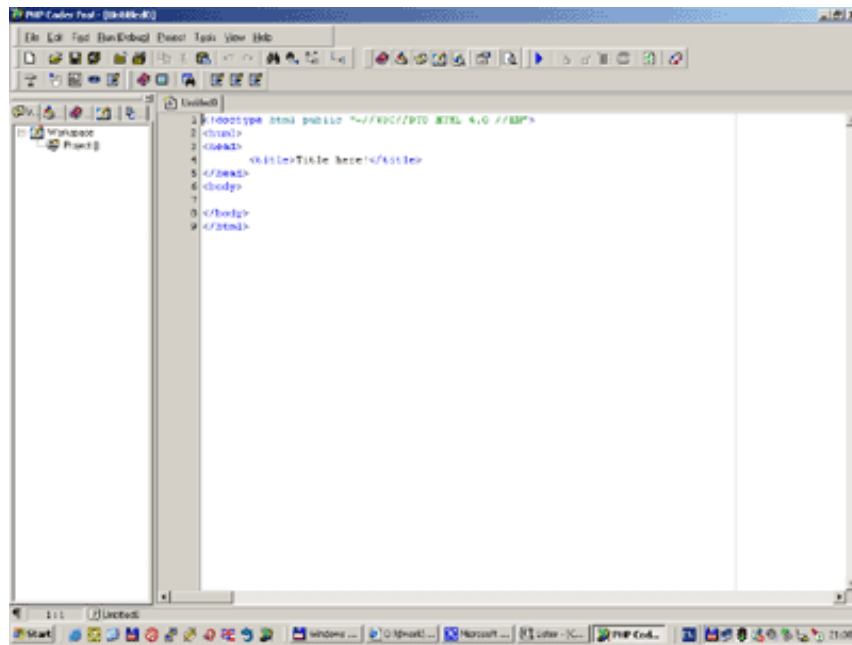
J`df]dUXY`•gdYWi`i j]X]a Yj`g]i d`Z`b`W`d\d]bZfLz`j`df]dUXY`bY`gdYWi`dcd]g`Wn'Vni`5_`g`Vcf`bY]l`g]i`Y`f]U`YVc`ga`Y`\`c`i`c`y]`]`g`
df]dcbei`H`h`j`bchYdUXY`gU'hc`glzj`Uz`gYfj`Yf`j`nd]Y`Wn'Vi`(`S(`

5. Editor a prehlada

DfY`YX]hZ`W]`g_f]d]h`j`j`D<D'a`'yYa`Y'dci`y]`dfcZ]glcbz`bY`j`j`c`zfg`_Y`dfcglfYX]Y`hndi`=89ž`fcny]f`Yb`f`YX]hcfmiU`YVc`U`nz`_`UXb`f`YX]hcfmi`
hndi`bchYdUX`U`YVc`j`]"?UyX`b`z`g`f`c`^`a`z`i`f`l]h`f`j`c`Xmi`U`b`Yj`c`Xmi`U`gd`gcV`dfz`W`g`b`l`a`Y`j`X`f`c`V`bc`gh]U`W`c`X]y`b`"J`X`c`Xc`VY`^`
j`j`c`z`fg`_Y`^`dfU`]`g`U`b`U`j`]U`W`c`g`Y`X`]`]`b`U`g`Y`X`i`^`W`b`z`g`f`c`^`Y`

-**NbXGh Xj**c`!`dfcZ]glcbz`bmi=89`bzg]fc`^`c`X`[k k k`"nYbX'Wa](#)`ž`Wb`U`WU`%`\$`I`G8`#]Wb`V]ž`
nU`i`Xc`j`Ub`XY`Vi`[[`Yf`ž`g`d`f`z`j`U`dfc`^`Y`_`h`c`j`ž`a`i`h`d`U`ž`f`a`b`b`z`g`f`c`^`j`>U`j`Y`
-**AUWca YXU**<`**ca YG]H**`!`dfcZ]glcbz`bmiYX]hcf`b`U`l`j`c`f`Vi`K`YVc`j`ž`nj`f`Un`c`j`Ub]Y`gnb]H]Y`ž`b`Y`dc`X`dc`fi`Y`X`Y`Vi`[[`Yf`ž`W`b`U`c`X`)\$\$\$`
G`_`#]W`b`V]ž`Y`b`df`Y`K`]b`X`c`k`g`[k k k`"a UWca YXU'Wa](#)
-**I hfU9X]h**`!`dfc`f`U`a`z`h`c`f`g`_`Y`X]hcf`ž`nj`f`Un`c`j`Ub]Y`gnb]H]Y`ž`V`Y`n`dc`X`dc`fm`X`Y`Vi`[[`Yf`U`ž`Y`b`K`]b`X`c`k`g`j`Y`fn]U`[k k k`"i hfUYX\]h'Wa](#)
-**D< D'7cXY'Dfc**`!`=89`bzg]fc`ž`dc`X`dc`f`U`X`Y`Vi`[[`Yf`U`ž`n`U`X`U`fa`c`ž`Y`b`df`Y`K`]b`X`c`k`g`[k k k`"d\d\]XY'XY](#)
-**9a UWžJA**`!`Y`X]hcf`ž`V`Y`n`dc`X`dc`fm`X`Y`Vi`[[`Yf`U`ž`K`]b`X`c`k`g`U`^`@`bi`l`[k k k`"bi`"cf\]](#)

Df]`XY`Vi`[[`]b`i`j`=89`Y`a`c`y`b`f`h`f`U`g`c`j`U`dfc`f`U`a`df]U`a`c`j`c`_`b`Y`=89ž`df]`dci`y]h]f`YX]hcf`U`V`Y`n`dc`X`dc`fm`X`Y`Vi`[[`Yf`U`Y`bi`h`b`f`g`h`z`b`_`i`
f`Y`c`U`X`c`j`U`d`ca`c`W`i`d`f`i`g`i`y`b`Y`^`_`z`j`Y`gm`i`f`Y`Z`Y`g`L`"dfcZ]glcbz`bmi`ca`d]z`h`c`f`N9B8`7`ca`d]Y`f`Y`X`c`X`z`j`Ub`g`d`f`i`g`i`y`b`a`=89"



CVF"* !'D<D'7cXYf'Dfc'-89

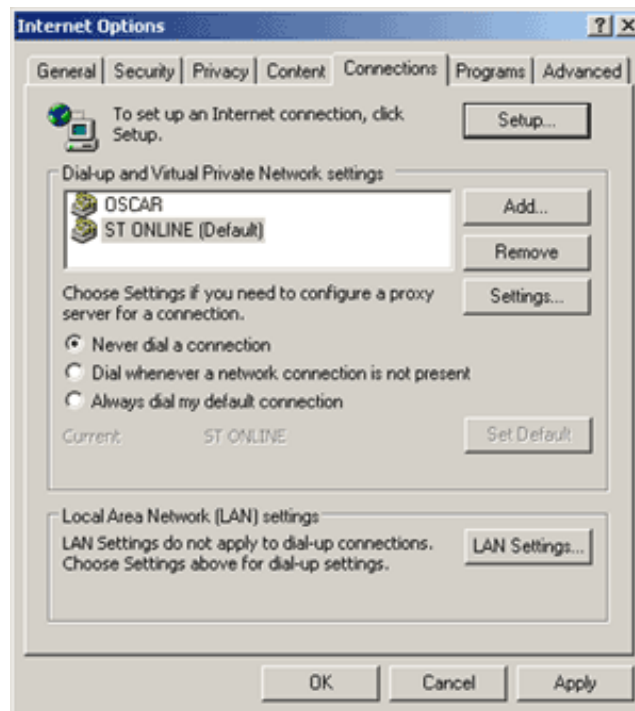
<clrej f'glfzb_mU'g_f]dlmig• 'dfYnYbhcj Ub'f'j 'dfY\`JUXU]''J'g• Ugbcg]a za Y_`X]gdcn[M]bUgYXi ^W'dfY\`JUXU Y.

- **A]WcgcZi=bhfbYh9l d'cfYf'!** [kkk" a \]WcgcZi'Wa](#) !' bU'fcnyf'fYbY'Yf' dfY\`JUXU ž ja d']Wfbz'g• Ug 'CG'K]bXck gž'bYd]gUb ' ýhUbXUfž'a z 'WnVmdf] [YbYfcj Ub†<HA@LA@U'7GGžncVfUni ^YU^bYd'Uhb '_OžYl]ghi ^Y^Yb'dfY'd'Už'fa i 'K]bXck g'U5dd'Y AU]bhcg\ž'nUXUfa cž'dfcV'fa mig_`Yycj Ub a]'glfzb_`Ua]
- **CdYFU!** [kkk"cdYFU'Wa](#) !' a cXYfb 'a i 'hd'Už'fa b 'dfY\`JUXU ž dca U'z]bhYfdYfzWU>5JMEj VcfbY [YbYfcj Ub '<HA@ 7GGžLA@_Ož'g' UFYk UFY'fygd'" UXk UFY
- **Acn]`U!** [kkk" a cn\]`U'cf\]](#) !' CdYbGci fW'a i 'hd'Už'fa b 'dfY\`JUXU ž cV Ugb'f'dfcV'fa mig_`Yycj Ub ža 'glfzbc_ž'dfj z 'dcXdcfU 7GG&U'LA@
- **BYgWdY!** [kkk"bygWdY'Wa](#) !' a i 'hd'Už'fa b 'dfY\`JUXU ž Ugr' ja d']Wfbz'g• Ug 'I B=Lcj W'gnghfa cj ž dca Uý'ž j c'žWnVmi j [YbYfcj Ubca '_OžYž'bYgd' i ^Yj ýYh niyhUbXUFXmik k k ' Wcf]
- **?cbei Yfcf!** [kkk" XY'cf\]](#) !' j Vcfb 'dfY\`JUXU ž g• Ug '?89'fl b]l Ł

GUa cnfY'a Y'Yl]ghi ^`YyH' Uý]Y'dfY\`JUXU Yž'bUdf'"@BLž5fUWbY'UY'JW'fcnyf'fYbY'Yj Y a]cVa YXnYbf'fc_fYa '@BLUE"7]Y ca ' j _j c^zfU'Vmia U'U'Vm i b]j Yfz' bU<HA@glfzb_U'fXc_i a YbHž'_lcfz'j mnyfz'fcj bU_c'dcXj ýYh_ a]'dfY\`JUXU a]'BU'bcj ý]Y'bca mU ýhUbXUFXmbz^XYh' bU'glfzb_Y'kkk" k' Wcf]

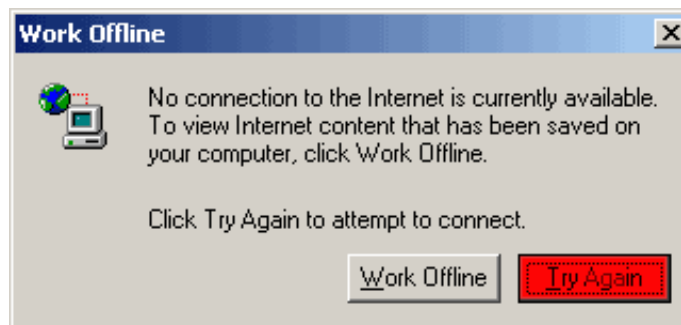
>Y'Xc'Yý]hf'bUgUj] 'dfY\`JUXU ž UvmigU'bYgbUj]'`c'df]dz'Ub]Y'bU]bhYfbYh'df]dfzW'g'Xca zV]a 'K K K 'gYfj Yfca "'BUgUj Yb]Y'gU'dfYj zXnU'j ' df]g'i ýbY^nz`cý_Yž'gdfUj]XU'DFYž'fYbWYg'fc'dYfUž'Acn]'Už'BYgWdY'U'YVc' Bzghfc'^Y'fh'c'g'Ł!2`b'bhYfbYhCd]h'cbg'!2`7cbbYV]cbg'fAG` =bhYfbYh9l d'cfYfL"

Df]dfzW'g'Xca zV]a 'K K K 'gYfj Yfca '^Y'bi]bf'bUgUj] j c Vi 'Df]dc^Yb]Y'f7cbbYV]cbL'bU'BYdf]dz^U 'gU'fBYj Yf'X]U'U'WbbYV]cbL!'`denf]' cVf'" + 'U'bUd]gU 'UX'Ygi 'I F@Xca zW^c'K K K 'gYfj YfU'fbUdf'"`Hrd.##cWU\`cghUYVc`\Hrd.##%&+"S"S"%Ł'Uj 'X]U'cf'cj ca 'c_bY'dclj fX] j c Vi ' G_•g]`nbcj i 'fh'fmi5[U]bL'UYVc'Df]dc^' gU'f7cbbYV]cbL!'`denf]'cVf'", "



CVF" + ! 'bUgHj Yb|Y'=9' bU'bYdf]dz^Ub|Y'gU_ ']bhYfbYfi

5_ 'ga Y'df]dc^Yb†dca cWi 'g|Y cj f^c'df]dc^Yb|U'f]dc †HU 'a z'g|Y cj • _Ufhi 'UYVc'dcXcVbfnUf]UXYb|Y: ^Y'bi Hbf'bUgHj] 'DFCLMgYfj Yf'j ' bUgHj Yb†df\ 'jUXU U'HU_ž'UvmVc'U'j c VU'6ndUgg'dfcl mgYfj Yf'Zcf''cW' UXXYgg'nUy_fbi lz fBYdci y†j U 'dfcl mgYfj Yf'dfY''c_z'bY' K K K 'gYfj Yfml"



CVF", ! '8]UQf 'dfY'df]dc^Yb|Y_ ''c_z'bYa i 'K K K 'gYfj Yfi

6. Databáza a jej správa

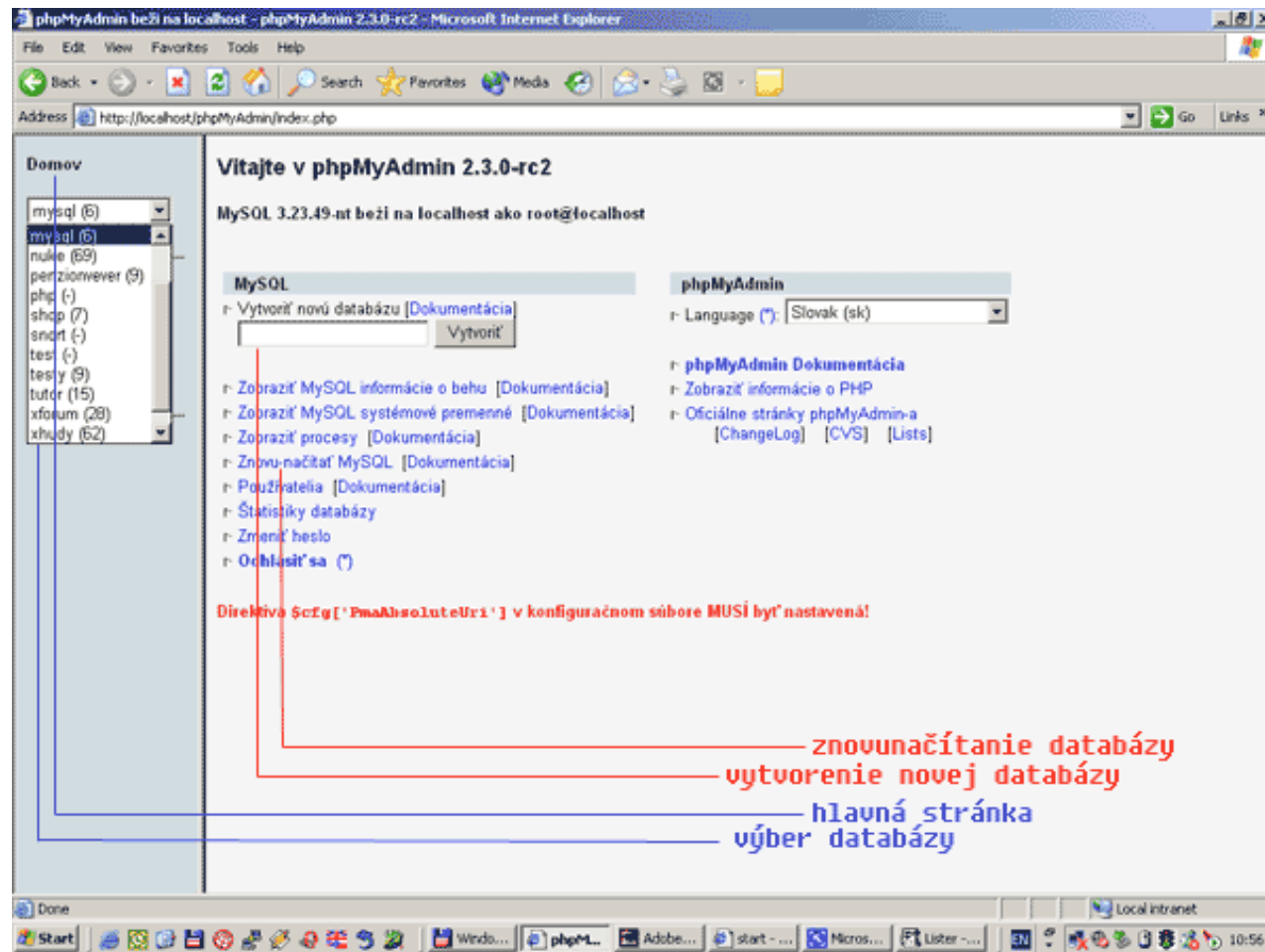
Df]dfzV]g'XUHUVznci 'AMGE@^Yj \cXbf'dci y] 'UXa]b]gHfU b 'bzgHfc^'d\ dAn5Xa]bž'_hcf ' ^Y'gUa chb 'bUdfc[fUa cj Ub 'j 'D<D''DfY' _ca i b]_zV] 'g'XUHUVznci 'g•y]Vi 'bU†j bmiXFU'j Yf'f]j 'zXU L'UYVc'j yYcVYWb'f'cj 'zXU Y'hndi 'C867'U>867''Hnd'cj 'zXU U'^Y'bi Hbf'nj c'] ' df]_ca d]zV]D<D'UYVc'j 'g•VcfY'd\d''b|''NUM Xcj Ub'f'cj 'zXU Y'j nd]gi '^Y'Z b_VU'd\ d]bZcf!"

Dc'gdi ghYb†bzghfc'U'd\daN5Xa]b'fi F@\[Hrd.##cWU\cgh#d\daN5Xa \]bL](#)gUncVfUn†c_bc'dfY'nUXub]Y'c[]bi 'U\Yg'U">Y'bi Hb'f'nUXU ' fejbU_ 'c[]b'U\Yg'c_U'c'df[]j ghi dbca ']b]WU]ncj Ub†XUHVznmIAME@]bU_ 'gU'd\daN5Xa]b'bYa ' yY_ 'XUHVznY'df]dc' ' "Df†dUXbf' na YmbibUghLj Yb]U'd\daN5Xa]b'gU'dfYj zXnU' j 'g' VcfY'WbZ[] "[\]bWd\ d](#)

BUghLj Yb]Y'd\daN5Xa]b!Uj 'gi VcfY'Wb[] [] "[\]bWd\dz\bU'X 'Yy\]h'Y'Y' Ugh'g' nj fUnbYbf](#)"

```
# l
l 'GYfj Yffgl'WbZ[] i fU]cb
l #
~ ]'1 'S/
## H'Y'~ W GGYfj YfgQ UffUnighUfh'k ]h'~ W GGYfj YfgQ%Q'8c'bchi gY'~ W GGYfj YfgQSQ
## M'i 'Wb'X]gUV'Y'U'gYfj Yf'WbZ[] 'Yb]fmVmigYH]b[ '\cghlc' ffi
~ ]Z'Z/
~ W GGYfj YfgQ ]Qh'cghfQ1 'fcWU\cghf'##bzncj 'gYfj YfU'UYVc'^\c'=#D
~ W GGYfj YfgQ ]Qh'cghfQ1 'ff'##
~ W GGYfj YfgQ ]Qh'cWYfQ1 'ff'##
~ W GGYfj YfgQ ]Qh'WbbYVhShdYfQ1 'ff'ff'
~ W GGYfj YfgQ ]Qh'Wb]fc' i gYfQ1 'ff'
~ W GGYfj YfgQ ]Qh'Wb]fc'dUggQ1 'ff'
~ W GGYfj YfgQ ]Qh' h'ShdYfQ1 'fi Hdf'##5i h'Ybh]W]cb'a Yh'cX'f]WbZ[] Z'\Hrd'cf'Wc_'Y'VUgYXL3
~ W GGYfj YfgQ ]Qh' gYfQ1 'fi nj UH'g_YSa Ybcfi'##AnGE@i gYf
~ W GGYfj YfgQ ]Qh'Uggk'cfX]Q1 'fi YgY_'cf'##AnGE@dUggk'cfX'fb'bmbYYXX
```

Dc'gdi ghYb†d\daN5Xa]b!U'gUncVfUn†\ 'Uj bz 'ghfzb_Uz'n'_hcfY'^Y'a cyb'f]U]X] 'XUHVzncj 'gnghfa 'AME@' 'DcXfcVbY'†dcdlg' d\daN5Xa]b!U'bz'^XHY'j 'Xc_i a YbhY'[D\daN5Xa \]b!' i yj UHY_ 'gdf\]Yj cXWZ_](#)hcf 'Y_'X]gdcn]W]dfY 'Ybcj 'D<D'_i Vi "BY'Ybcj]U'a 'ji ' j m' y] 'Xc_i a Yb]zW] '_Xubfa i 'gcZk UfY"



CVF"- !'d\dn5Xa]b

8' `Yj]hf'•XU'Y'g• j 'F86AG'AME@i `cÿYbf'j 'XUHVznY'a nge"'Dc`U_Y^_c j Y_`na YbY•XU'cj `Y'bi Hbf'XUHVzni `AnGE@nbcj i bU #HU` ftdcnf]'cVF"- E'

8' `Yj]hf' HVi _mj 'XUHVznY'AME@

...I G9F'! [`cVz bU'HVi _U'g'i ýj UHY a]U [`cVz `bma]df]gh dcj a]dfzj Ua]"CXdcf• Ua Yj ýYh_na `i ýj UHY ca `c_fYa `UXa]bU bUgHj] `dfzj U'bUB`#Bc#U'dfzj U_`df]g`YybY^XUHVznY'bUgHj] j `HVi _Y'86"

Df]i_`UXUb;`Yg]Y`Y'bi Hbf'dci ýj `Z b_ Vj `D5GGK CF8`°°

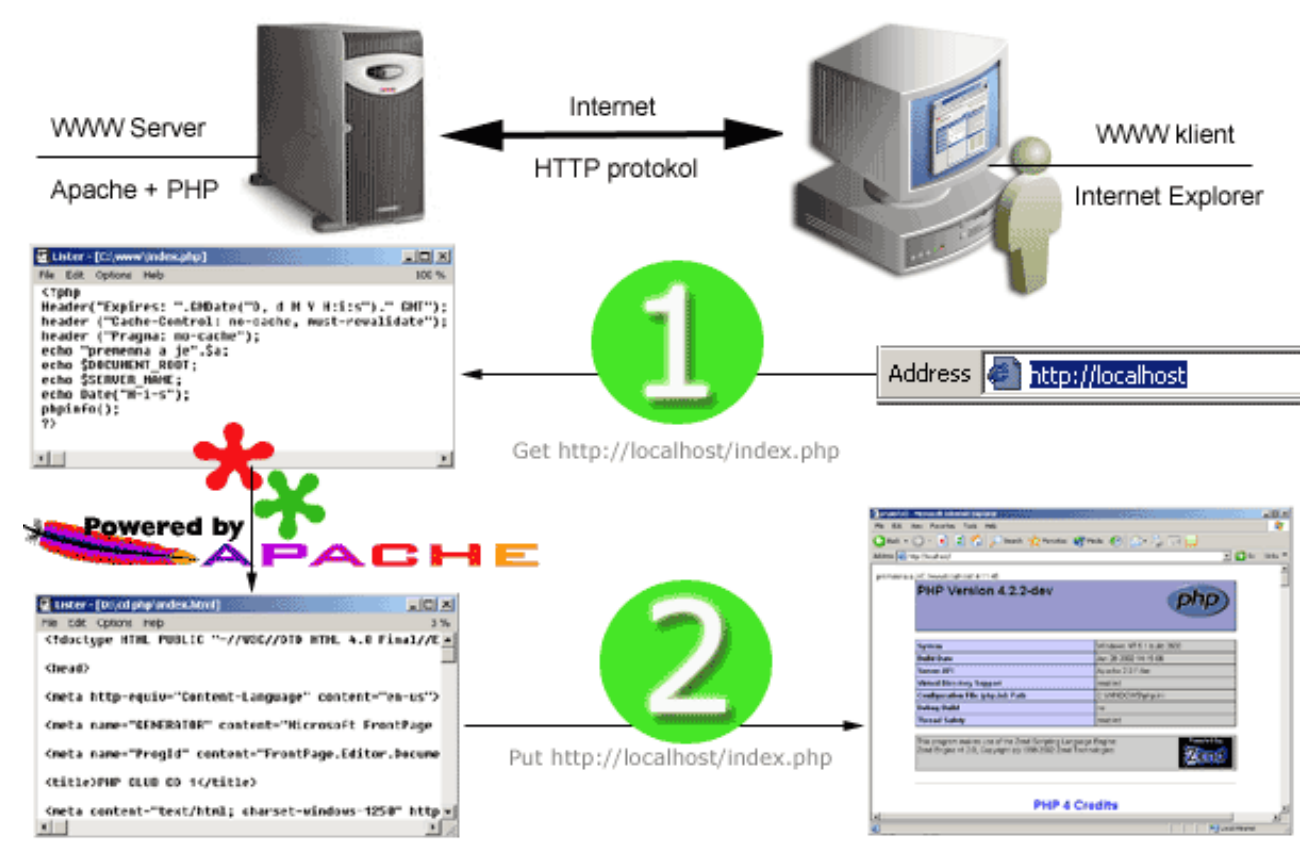
...86"! `c_z bU'HVi _U'g'df]gh dcj a]dfzj Ua]_`YXbch]j a `XUHVznUa ""

7. Základná syntax jazyka

J `bUg`YXi ^ VW`_Ud]hc`zW`Y`cd]gUbz `nz_`UXbz `gnbHU `Udf]_Unm`Um`U'D<D'`Df]`ýh`Xli `Y'j `cXbf`]bY `cXg_•ýU `hi `nj YfY'bYbf`df]_`UXnž` fYgd`dc_•ýU`gUc`bUdfc[fUa`cj`Ub]Y`dcXcVb`W`_cbýhfi`Vž`UvmJza`D<D'dfY'c`U_c`gU`cj`cf;`Xc`_fj]""I `Yb]Y`gU`dfc[fUa`cj`UW]`c`

UmmUVVyn'g • yUb]U'U'YUVcfcj Ub]U'bYa z' dcXU'a c'W'g' • gYbcg'fj } y'j nbUa žj \cXbf'Y'Yb'bUdf' U'X'df]dfYwCXY'n'YXbf\c' dfc]fUa cj UMY\c'UmmU'bU'Xfi \ "

5_c'gca 'i y'gdca fBUž'Umm 'D<D'g' • y]bUj n] YbYfcj Ub]Y'<HA@gfzb_m'BU_c_c']XY'c'j } y]bci ']bhYdfYrcj Ub 'g_f]džj ghi dca 'Y'<HA@Xc_i a YbH'Gd' gcVj n] YbYfcj Ub]U'<HA@Xc_i a YbH 'dca cWi 'UmmU'D<D'Y'ncVfUnYb 'bU'cVfzn_i '%S"



CVF"%S'! 'gd' gcV[YbYfcj Ub]U'<HA@Xc_i a YbH

Hj cfVU'<HA@Xc_i a YbH 'dca cWi 'D<D'dfYV]U'j c'j]UWf W'ZnUW" 'Df]V]ybY'g' 'ncVfUnYb'f'bU'dfYXWzXnU' • Wa 'cVfzn_i .

%''?]YbHij YX]YI F@UXFYgi 'Xc_i a YbH ž_hcf 'WW'ncVfUn] " 'DFY \]UXU 'dca cWi '<HD'fk ndYf'HYI hHFUbgZf' dfc]c_c 'L'dc]UXU' gYfj Yf'c'j fzhYb]Y'dc]UXc] Ub]f\c'Xc_i a YbH "

; 9H\Htd. ##cW\cgl#bXYI "d\d

&' 'GYfj Yf'ng]ž'Y'bY'XY'c'g]U]W 'Xc_i a YbHfdXU'df]dcbm'd'dE'Un] c'z'a cXi 'D<Dž_hcf ']bhYdfYh 'Y'D<D'Xc_i a YbH'Uj 'gYXc_' j fzh'K K K 'dfY \]UXU i 'fj fzh]j n] YbYfcj Ub '<HA@Xc_i a YbH' 'GYfj Yf'j n] YbYfcj Ub '<HA@Xc_i a YbH'cXc'Y'dca cWi 'a YH'Xmi DI H<HD'dfc]c_c i ']Yb]g_Y'gfUbyž_hcfz '\c'ncVfUn]'J 'df]dUXYž'Y'df]Y'dc]UXUj 'U'bu' [YbYfcj Ub]Y'g]U]W'f\c'K K K ' Xc_i a YbH 'fbUdf' U'X'g'df]dcbci '\ha 'žza cXi 'D<D'b]Y'Y'j c'Ub " 'BUg]Uj Yb]Yž_hcf 'Xc_i a YbH]bhYdfYrcj U 'U'_hcf 'b]Yž'Y' a cYb'f'j 'g'VcfY' \HdX'Wbz

>Umm 'D<D'Y'g]a cnfY'a Y'a cYb'f'_ca V]bcj U 'g'_Ug]W a]' '<HA@HU] a]' " 'DFYrc 'Y'nbUcg '<HA@b]j n] bi hz 'dfY'_UyXf\c'k YVc] f\c' dfc]fUa žhcfU'

Nuđ• nXfYbJY'Xc' < HA@

Dfđ_`UX+!%`Nuđ• nXfYbJY

```

`%
`&%'`03'YwC`f'f'hc'`Y'bU'^YXbcXi Wý†gd' gcVfB`L`'32
.. ..
`('`&''03d\d`YwCff`U_`WWh'`gdfUWj`zj`U`LA@Xc_i`a`Ybhz'dci`j|h'fUX'Y^h'hc'fB`L`'32
`)`
`*`"``0gW]dh`Ub[`i`U`Y1`~d`d`2`
`+`.....`YwC`f'b]Y`hcf`YX]hcfmifU_c`:`fcbhDU[`Yl`bYnbzýU^
`,`.....`dfYXWzXnU^`Wgd'`gcV`L/
`-`.....0`#gW]dh2
`%$`
`%@(``"01` `YwC`f'A` `yYh`hYy'dci`j` `U^5GD`HJ`mL`/`1` 2
`%&''01` 1`~`j`Uf]UVY/'` `Hc'`Y`g`fU`U`dfY`01` YwC`''''`1` 2
`%`.....

```

Dfj`z`a`cýbcg`h`Y_`X]gden]Mj`Yb`U_`Y`nUdbi`hz`a`cýbcg`gdfUWj`zj`Ub]U`g`fzhYb`W`HJ`cj`"NUVYndY`f`hc`Z`b`VJ`g`cf]SHJ`g]Z`df]dUXbY`_cbZ]`i`fU`bz`j`c`VU`g`cf]ScdYbSHJ`j`D<D`_cbZ]`i`fU`bca`g`VcfYž`j`df]`_ca`d]zWj`X]fY`h]`U!!`YbUV`Y!`g`cf]h`HJ`g`"ú]j`flz`a`cýbcg`Y`dci`ý]`U`5GD`HJ`n]`Ai`g]`hc`Vm`dej`c`Yb`f`j`bUgh]`Yb]UgdSHJ`g`5_`Y`hc`a`cýb`f`ž`j`m`VU`h`g`U`hca`i`hc`ý`h`i`dfc]`fUa`cj`Ub]Už`D<D`Y`Xcg`XcVf`f`bU`hcz`UVm]g`U`bYa`i`gY`c`dc`5GD`cd]`]"`

CXdcf• Ua`dci`ý]`U`HJ`m]03d\d`U`32

CXXY`Yb]Y`dfđ_`Uncj`U`_ca`YblzfY

Dfđ_`Umnig`cX`gYVU`cXXY`Yb]f`dcXcVbY`U`_c`j`D9F@9`UYwC`^Umn`i`7`!`VcX`_c`j]Uf`_ci`"?"cbWj` `HJ`f]32L`nbUa`Ybz`h]Yy`_cb]YWdfđ_`Uncj`ž`HJ`ýY`bUg`YXi`^`W`Xj`U`dfđ_`UXm]g`f`cj`bcWbbf`"D<D`gUa`cnfY`a`Y`dcXdcfi`Y`j`jUWdfđ_`Uncj`bU`YXbca`f]UX`i`"

Dfđ_`UX+!&`CXXY`Yb]Y`dfđ_`Uncj

```

`%
`&`03d\d
`'.....YwC`Hc'`Y`hYgh`/
`('`32
`)`
`*`03d\d`YwC`Hc'`Y`hYgh`'32
`+`.....

```

D<D`dcXdcfi`Y`_ca`YblzfY`j`ýh`Y`f]f]f]f]Ž`ž`fiU`i`b]`]"`

Dfđ_`UX+!`"?"ca`YblzfY


```

"%
"&03d\d
" 'YWc "hgh"/##Hlc 'Y'YXbcf]UX_cj ' _ca Yblzf"
"( '## 'Hlc 'Yj ]UW]UX_cj
') ..... _ca Yblzf' l #
** .....YWc " ]b 'hgh/
"+ .....YWc "dcgYXb 'hgh"/. 'Hlc 'Y' _ca Yblzf' j 'yh 'YI B=Li
"; '32
.. .....

```

>YXbcf]UX_cj ' _ca Yblzf'nU U'Vc_'Xc'_cbW'f]UX_i 'UYVc'i'_cb_cj UW\c'HU[i'ždcXU'rc\cž' c'df'XY'g_'f"

Df' _UX+!("?ca YblzfY

```

"%
"&0\%2Hlc 'Y'03_ 'YWc "'YXbcXi Wm'/32 'df' _UX'0#%2
" 'Od2< 'Uj ] _Uj nd'Y'f'Hlc 'Y'df' _UXfi
"(

```

D<Dj ýU_ 'bYdcXdcfi 'Y'hj "'\b]YnXYb]Y'_ca Yblzfcj ž'bUg'YXi ^W'df' _UX'Y'df'Yrc 'bYZ b b "

Df' _UX+!) "?ca YblzfY

```

"%
"&03d\d
" '## '
"( .....YWc "Hlc 'Y'hgh"/# 'HYblc'_ca Yblzf'fcV'řdfcV'fa m
') 'l #
** '32
'+ .....

```

8. Typy

JýYh_midfYa Ybbf'j 'D<D'g' 'i f]hf'c'hndi ždcXcVbYU_c' i X]Uj 'fyz'bca 'gj Yh'"D<D'dcXdcfi 'Y'bUg'YXi ^W'hndmi

-dc Y
-XgU]bbf' gU
-Wf' gU
-cV^Y_hni
-fY UnW

Hnd' dci ý]h^dfYa YbbY^gdfUj]XU'bYnUXzj U'dfc[fUa zhrfzUY'Ui lra Uh]W'mj nVYfz 'D<D'dcXU'dcj U'mi 'cýYbY^]bZ'fa zVY''5_ 'WWY' gUa]'gUbcj] 'hnd' dci ý]h^dfYa YbbYž^Y'a cýbf' dfYmlej U 'dfYa Ybb' dca cWi 'Z b_ VY' gYhndYfL' B'YnUvi Xb]hžžýY'dfYa Ybbf'gU a ' ýi 'gdfzj U 'f' nbY'dcXU]W'hndi 'Ug]hi zVY"

....=b]h] Yf'! Wf' gU

7Yf' gUa ' ýi 'Vm'dci ý]hf'g'bUg'YXi ^Wi 'gnb]U ci . '

Dfġ `UX, !%'F' rbYhmlm

```
..%
..&~ U1 '%& (/.' `XYgUhbhf' ġU
.. ' U1 !%'& /.' `nzdcfbf' ġU
..( ~ U1 '$%& /.' `cga ]_cj f' ġc'ffcj bU_f'U_c'; ' X
..) ~ U1 '$!%'& /.' `yYgbzgh_cj f' ġc'ffcj bU_f'U_c'% XĹ
..* .....
```

...8YgUhbhf' ġU

8YgUhbhf' ġUff'Xci VY`L'a ' ġi `Vm`XYZbcj UbfbUg`YXcj bY. '

Dfġ `UX, !&'8YgUhbhf' ġc' Xc'dfYa YbbY^

```
1
2 $a = 1.234; $a = 1.2e3;
3
```

...FY UnW

FY UnW'a ' ġi `Vm`c`fUb] Ybf`Xj ca]`Xfi `a]cXXY cj U cj "'

5_`Y`fY UnYWc`fUb] Yb `•j cXncj_Ua]ff`Iz`dfYa Ybbfj `^Y`c`h`Y`g• `gdfUWj zj Ubj'"5_cj `^Um_i `7`UD9F@ž`gd} Hbf`ca ġ_c`ff`P`L`Y`bi Hbf`dci ġ] `df]`XYZbcj Ubž`ydYWž`bnW`nbU_cj "'

HVi _U, !' ""üdYWž`bY`nbU_m

gY_j YbVU	j nbUa
<code>\n</code>	<code>bcj `f]UXc_</code>
<code>\r</code>	<code>j cnġ_</code>
<code>\t</code>	<code>j cXcfcj b `HVi `złcf</code>
<code>\\</code>	<code>gd} Hbf`ca ġ_c</code>
<code>\\$</code>	<code>nbU_ Xc`zfU</code>
<code>\"</code>	<code>•j cXncj_U</code>
<code>\[0-7]{1,3}</code>	<code>fY] "j fUn`#c_lz`bn#'</code>
<code>\x[0-9A-Fa-f]{1,2}</code>	<code>fY] 'j fUn`#\ Yl UXV]a z`bn#'</code>

8fi `ci `a cýbcg ci `Y`i nUj f]Y `fY UnYW`Xc`UdcgłfcZc] `ff`fiL`"Hmłc`fY UnYWbYVi XY`j c`j b•`hf]`dUfgcj Ub ž`ydYWž`bY`nbU_mib]Y`Y`a cýbf`dci ġ] `!`Vi X• `ncVfUnYbf`HU_`U_c`g•"'

U`yci `a cýbcg ci `Y`dci ġ] `Xc_i a YbHU b• `gnbHU "'ff`000`E`"8c_i a YblzVU`nU ġbUnU`h a łc`nbU_ca `U_c_b ġdf]`HU]i ž`łcf `Y`i j YXyb `nU`b`ła `fbUdfġ `UX`9C8E`"Hmłc`HU] `a i gġVm`bU`nU]Uġ_i `f]UX_U`"'

Definícia: Heredoc

```
1
2 $str = <<<EOD
3 Príklad of string
4 spanning multiple lines
5 using heredoc syntax.
6 EOD;
7
```

Príklad: `dfjXUbfj D<D("`

FY UnW`Y'a cýbf'gdz`U`dca cWi`cdYfzVW` JUF_U'fifi`NbU_nifY UnW`g• j`UgbY`nbU_cj a`dc ca ždfYrc`_bja`a`yYa Y`U`HU`hc`
dfjgi dcj U.

Definícia: PHP Heredoc

```
1
2 <?php
3 /* priradenie. */
4 $str = "This is a string";
5
6 /* pridanie. */
7 $str = $str . " with some more text";
8
9 /* iné pridanie */
10 $str .= " and a newline at the end.\n";
11
12 /* Tento reazec koní cislom '<p>Number: 9</p>' */
13 $num = 9;
14 $str = "<p>Number: $num</p>";
15
16 /* Toto bude '<p>Number: $num</p>' */
17 $num = 9;
18 $str = '<p>Number: $num</p>';
19
20 /* Vrátí prvý znak reazca */
21 $str = 'This is a test.';
22 $first = $str[0];
23
24 /* Vrátí posledný znak reazca. */
25 $str = 'This is still a test.';
26 $last = $str[strlen($str)-1];
27 ?>
28
```

Reazcové konverzie

5_`Yfy UnWj fzHb`U_c` tgcž`Y`c`hd`Vi XY`bUg`YXi`^`W

6i XY'hd'Xci VY'fXyGhbb E'U_ 'Vi XY'cVgU'cj U 'YXyb'nc'nbU'cj 'fif'fif'UYVc 'fif'fif'U'Vi XY'W'c 'ig'Yb 'fj'bh'Y'fL"

<cXbcHU 'g'U'Y'XUz'•j'cXbc' \cXbc'ci 'fY UnW'5_ 'Y'rc' 'g'c'z'Vi XY'rc'rc'rc' 'g'c'z'j 'bca' 'df'f'U'X'Y'rc' 'Vi XY'bi 'U' 'fSL' 'DU'bf' 'g'Ybf'XzHU
nU 'bU'• 'bYdcj 'jbb' a 'nbUa 'jYb_ca 'z'dc'_l'rc'fca 'bUg'YXi 'Y'YXbc'UYVc'j 'JUW' 'g'j'W'f'c' 'j'Y'b'Y'U'g'X'Y'g'U'h'bb'ci' 'j'U'f'_ci' 'E'z'bUg'YX'cj' 'U'bf'
bYdcj 'jbb' a 'Yl' dcbYb'ra "9l' dcbYb'h'Y'nbU_ 'f'f'f'UYVc' 'f'f'f'U'g'YX'cj' 'U'bf' 'YXbc' 'UYVc'j 'JUW'f' a 'j' 'g'j'W'a 'j"

5_ 'Y'dfj 'j' fUn'fY UnY'W'hd'dfYa YbbY^Vi XY'nzj 'g'j'Y 'bU'X'fi '\ca' 'fY UnW'

Df' _UX, !* "FY UnWj f'_cbj YfnjY

```
1
2 $foo = 1 + "10.5";           // $foo je double (11.5)
3 $foo = 1 + "-1.3e3";        // $foo je double (-1299)
4 $foo = 1 + "bob-1.3e3";     // $foo je integer (1)
5 $foo = 1 + "bob3";         // $foo je integer (1)
6 $foo = 1 + "10 malych svin"; // $foo je integer (11)
7 $foo = 1 + "10 malych sviniek"; // $foo je integer (11)
8 $foo = "10.0 svin " + 1;    // $foo je integer (11)
9 $foo = "10.0 svin " + 1.0;  // $foo je double (11)
10
```

5_ 'g'j'WWH'ch'g'c'j'U'h'h'b'c' 'df'_UX'z'nU'_UyX 'f'j'U'X'_n'U'f'U'X'h' 'bU'g'YXi 'W'df'j' Un'

Df' _UX, !+ "N'g'h'b'j'Y'hd'i

```
1
2 echo "\$foo==\$foo; typ je " . gettype( $foo ) . "<br>\n";
3
```

Polia

→>YXbcfcra Ybf' dc'jU

D'c'D'c'Xdc'f' 'Y'g_ 'Uz'f'm'U'g'c'V'U'h'j' bY'dc'j'U' 'J' 'dc'X'g'h'Y' 'a' YXn' 'b'ja 'j' 'b'j'Y' 'y'j'U'X'b'm'f'c'n'X'Y'z' 'a' 'y'Y'h' 'j'W' 'j' 'n'j' 'c'f' 'd'c'a' 'c'W'i' 'Z' 'b' 'W' 'j' 'g'f'f'f'
UYVc 'U'f'U'f'f'UYVc 'Yl' d'j'm'b'Y'X'Y'z' 'b'c'j' U '_UyX' 'df'j' c'_dc' U'

Df' _UX, !, "BUd'bYb'j'Y'dc' U

```
1
2 $a[0] = "abc";
3 $a[1] = "def";
4 $b["foo"] = 13;
5
```

Jnlj cf] 'a' ýYhY'hYý' dc`Y' dfe gh a `df]XUb]a `cXb' hXc' dc U" J`df]dUXY`yY'dci ý]`YhY'dfznXbY'n`cýYbf' rzlj cf_nž dfj c_`Vi XY'nUFUXYb `bU`_cb]YWdc U"

Df] `UX, !- "BUd'bYb]Y' dc UVYndci ý]hU]bXl i

```
1
2 $a[] = "ahoj"; // $a[2] == "ahoj"
3 $a[] = "svet"; // $a[3] == "svet"
4
```

Dc]U'a ' ýYa Y'lf]YX] `dca cWi `UgcflfLZ UgcflfLZ`_gcflfLZ fgcflfLZ`gcflfLZ i UgcflfLZ i gcflfL U i`_gcflfLZ b_V#"

: i b_VU`Wi bflLj fzh] dc Yhdfj _cj `dc U"

Dc`dc]`a ' ýYhY'dfYWzXnU `dca cWi `Z b_VW`BYl hflU`DFY] jci gflL" =bci `cV`VYbci `a cýbcg ci `Y'nUj c`U `Z b_V# `YUWflL"

....JJUWcra Yfbf`dc]U

JJUWcra Yfbf`dc]U`g` j Ya]`YXbcXi Wfz`gU `df]XU `]b` `Q` `cj` `Q`cXbci `bU`_cb]YWJ JUWcra Yfbf`dc Y`Y'a cýbf`bUd`b] `f` nbna]`gd' gcVa]"

Df] `UX, !%\$"BUd'bYb]Yj JUWcra Yfbf`c`dc U

```
1
2 $a[1]      = $f;           # jednorozmerné polia
3 $a["foo"]  = $f;
4
5 $a[1][0]   = $f;           # dvojrozmerné pole
6 $a["foo"][2] = $f;         # (mix asociatívneho a numerického po a)
7 $a[3]["bar"] = $f;         #
8
9 $a["foo"][4]["bar"][0] = $f; # štvorrozmerné pole
10

1
2 $a[3]['bar'] = 'Bob';
3 echo "This will work: {$a[3][bar]}";
4
```

Df] `UX, !%%'BUd'bYb]Yj JUWcra Yfbf`c`dc U

```

1
2 # Príklad 1:
3
4 $a["color"] = "red";
5 $a["taste"] = "sweet";
6 $a["shape"] = "round";
7 $a["name"] = "apple";
8 $a[3] = 4;
9
10 # Príklad 2:
11 $a = array(
12     "color" => "red",
13     "taste" => "sweet",
14     "shape" => "round",
15     "name" => "apple",
16     3 => 4
17 );
18

```

: i b_VU'UFU'La ' ýYVm'j `cýYbz`U^dfY'j JUW'cna Yfbf'dc`JU

Df`_UX, !%&"BU'bYb|Yj JUW'cna Yfbf^c'dc Udca cWi`UffUm

```

1
2 <?
3 $a = array(
4     "apple" => array(
5         "color" => "red",
6         "taste" => "sweet",
7         "shape" => "round"
8     ),
9     "orange" => array(
10        "color" => "orange",
11        "taste" => "tart",
12        "shape" => "round"
13    ),
14    "banana" => array(
15        "color" => "yellow",
16        "taste" => "paste-y",
17        "shape" => "banana-shaped"
18    )
19 );
20
21 echo $a["apple"]["taste"]; # vypíše "sweet"
22 ?>
23

```

Pretypovanie

D<D'bYdcXdcfi ^Y'Yl d`|W|b'f'i f Yb|Y'hml' d'fYa Ya bY^df]'^Y^XY_`UfzV|ž'^Y^hml'^Y'i f Yb `df]'^Y^dfj ca `dci ý|h|'NbUa Ybz `hcžýY`U_`Xc`

```
dfYa YbbY^df]fUX]Y'bUnU ]U_i 'fY UnYVVi XY'hndi 'fY UnYW
```

```
Df] `UX`Ui lca Uh]WY^_cbj Yfn]Y'hndcj `^Y`cdYfz]U`g #]Ub]U`ř`fi`5_`^Y`^XYb`n`cdYfUbXcj `Xci VYžj`y]h`nicdYfUbXnig`j`m`cXbch]b]f`U`c`  
Xci VY`Uj`g`YXc`_`Vi`XY`h]Yy`Xci VY`"=bU`_`Vi`X`_`cdYfUbXm]bh]YdfY]rcj Ub]f`U`c`W`c`gYb`_`hnd]`bh]Y`Yf`Uj`g`YXc`_`Vi`XY`h]Yy`]bh]Y`Yf`"
```

```
Df] `UX, !% "5i lca Uh]W]f`dfY'hndcj Ub]Y
```

```
1  
2 $foo = "0"; // $foo je reazec (ASCII 48)  
3 $foo++; // $foo je reazec "1" (ASCII 49)  
4 $foo += 1; // $foo je teraz integer (2)  
5 $foo = $foo + 1.3; // $foo je teraz double (3.3)  
6 $foo = 5 + "10 malych svin "; // $foo je integer (15)  
7 $foo = 5 + "10 malych svin"; // $foo je integer (15)  
8
```

```
5_`WW]h]j`ng`_`yU`^`XYb`n`df]`UXcj`ž`Xcd`bh]`bUg`YXi`^`W]f]UXc`_`nU`_`UyX`_`df]`Uh`"
```

```
Df] `UX, !% ("I f Yb]Y'hndi
```

```
1  
2 echo "\$foo==\$foo; type is " . gettype( $foo ) . "<br>\n";  
3
```

Pretypovanie

```
Df] `UX, !% "DfY'hndcj Ub]Y
```

```
1  
2 $foo = 10; // $foo is an integer  
3 $bar = (double) $foo; // $bar is a double  
4
```

```
Dcj c`Yb]f`dfY'hndcj Ub]Y`^Y`_`
```

```
....f]bh]ž`f]bh]Y`Yf]L`!`bU`]bh]Y`Yf  
....ffYU]ž`f]Xci VYžž`f]ZcU]L`!`bU`]Xci VY  
....f]g]f]b]L`!`bU`]fY UnYW  
....f]U]f]U]n]i`!`bU`]dc`Y  
....f]c`V`^`W]L`!`bU`]c`V`^`Y`_`h
```

```
B]Yn]U]i`Xb]h]žž`y]Y`H]U]i`_`ž]l`c]f]m]U`a`Y`X]n]Y`f]m]ig`_`dcj`c`Y`b]f`"
```

```
Df] `UX, !% "DfY'hndcj Ub]Y
```

```
1
2 $foo = (int) $bar;
3 $foo = ( int ) $bar;
4
```

B]Y^YJza `Ugbfz` c`gUXY^Y3BUdf`_UX`df]dfYmclj Ub`g_Uzfi `bU`dc`Y`gU`ghUbY`dfYa Ybbz`dfj` a `dfj`_ca `dc U`

Df`_UX, !%`"DfYmclj Ub]YbU`dc`Y`

```
1
2 $var = 'ahoj';
3 $arr = (array) $var;
4 echo $arr[0]; // vypise 'ahoj'
5
```

DcXcVbY^Y`lc`U^g`cV^Y`lra`."`

Df`_UX, !%`"DfYmclj Ub]YbU`cV^Y`h`

```
1
2 $var = 'zdar';
3 $obj = (object) $var;
4 echo $obj->scalar; // vypise 'zdar'
5
```

9. Premenné

DfYa Ybbf`g` j `D`D`fydfYnYbclj Ubf`nbU`_ca `Xc`zfz`nU`_lrf` a `bUg`YXi`^Y`bzncj`dfYa YbbY`"Bzncj`^Y`Vh]j` `bUj`Y`_cg`d`ga`Yb`" BYnUvi`Xb]a`Y`bU`lrcz`yY`dfclrc`_c`<HD`^Y`VYng]Lj`cj` ž`c`nbUa`Ybzž`yY`j`yYh`mdfYa`Ybbf`g]fz`W`^`g`c`^`d`U`bcg`dc`i`_cb`Yb]VY`i` g`f]dli`">YX]bci`a`c`ybcg`ci`^Y`i`^c`j`dfYa`Ybbf`dca`cWi`Wc`_Y`bU`ghUbY`_`]Yb]U`UYVc`dca`cWi`gYgg]cb`bU`ghUbY`gYfj`YfU`

Df`_UX- !%`BU`bYb]Y`dfYa`YbbY`^`

```
1
2 $var = "Bob";
3 $Var = "Joe";
4 echo "$var, $Var"; // vypíše "Bob, Joe"
5
```

J`Dc`D`g`^`ja`d`]V]bY`dci`y]hf`dfYa`Ybbfz`_lrf`f`g`^`j`yXnij`c`Ub`f`^`cXbclci`"NbUa`Ybz`lrcz`yY`df]`df]fUXYb]`^YXbY`^`dfYa`YbbY`^`Xc`Xfi`^`Y`^`Y`j`yXmi`g`_cd]fcj`Ubz`^`Y`^`cXbc]U`nc`nXfc`^`cj`Y`^`dfYa`YbbY`^`Xc`WY`cj`Y`"BYg`_cfy]U`na`YbU`^`YXbY`^`cXbc]mij`yU`_`bYcj`d`nj`b]`^`cXbcli`Xfi`^`Y`^`dfYa`YbbY`ž`ncg]zj`U`^`bU`gYVY`bYnzj`lg`f`"DfYj`JUW]bZ`fa`zV]`c`lra`lc`hndY`df]fUXYb]U`dcnf]`_Ud]lc`i`[J`fUmi`](#)"

Dc`D`dcb`_U`]b`^`a`c`ybcg`j`c`Ub]U`dfYa`YbbY`^`!`cX`Unca`"NbUa`Ybz`lrcz`yY`df]`df]fUXYb]`^`YXbY`^`dfYa`YbbY`^`Xc`Xfi`^`Y`^`gU`bcj`z`dfYa`Ybbz`^`g]zj`U`_`a`gl`U]Ugca`ž`cV]Xj`Y`dfYa`Ybbf`i`_Uni`^`bU`fcj`bU`_f`a`]Yg]c`j`dUa`}`hž`g`^`lc`j`UgbY`dc]b]fY`"Df]`na`YbY`^`YXbY`^`dfYa`YbbY`^`gU`U`lra`Uh]W]mina`Yb]U`^`cVgU`^`Xfi`^`Y`^`dfYa`YbbY`"Df]fUXYb]Y`^`Y`hYy`f`W`Y`y]Yz`bU`_`_c`b]Y`^`Y`bi`b]f`y]UXbY`_cd]fcj`Ub]Y`^`cXbc]mž`lrc`^`

nf W`YbJY^Yj yU_`a YfUHYbf`Ybj c j Y_ W`Wm`cWz`df`dUXbYdfj`dfgh`dY`_j Y_` a `cV^Y`hca ` `]dc`Ua `"

DfYj c`UbJY`cX`Unca `^Y`bi`Hbf`dfYX`bzncj `dfYa`YbbY`^nFUUX] `nbU_`Ua`dYfg`UbX`fl`E"

Df`_`UX-`!&`Jc`UbJY`cX`Unca

```
1
2 <?php
3 $foo = 'Bob';           // prirad hodnotu 'Bob' do $foo
4 $bar = &$foo;          // referencia $foo via $bar.
5 $bar = "My name is $bar"; // zmen $bar...
6 echo $foo;             // $foo sa zmenilo tiez
7 echo $bar;
8 ?>
9
```

BYnUvi Xb]hZ`yY`Yb`dca`Ybcj`UbJ`dfYa`Ybbf`a` `yi` `Vm`j`c`UbJ`cX`Unca` `G` `h`j` `UghY`dfYa`Ybbfz`_hcf`a`U` `a`Ybcz`bJY`^Y`h`bUdf`" `a`UhYa`UhW` `j`fUn`"

Df`_`UX-`!` `Dca`Ybcj`Ubz`dfYa`Ybbz

```
1
2 <?php
3 $foo = 25;
4 $bar = &$foo; // Platné priradenie.
5 $bar = &(amp;24 * 7); // Chyba; volanie nepomenovanej premennej
6
7 function test() {
8     return 25;
9 }
10
11 $bar = &test(); // Invalid.
12 ?>
13
```

Predefinované premenné

D<D`dcg`nii`^Y`VYj]Ua` `g`f]d]ca` `j`Y`_`f`a`bc`y]g]c`dfYXXYZ]bcj`Ub`W`dfYa`Ybb`W`"J`Y`U`n`b]W`j`yU` `bYa` `yY`Vm` `d`bY`dcd]g]Ubz`z`bU`_`c`_`c` `nzj`lg]U`cX`gYfj`YfUz`bU`_`hcfca` `VYy]Uz`cX`j`Yfn]Y`CG`U`cX`]b`W`ZU`hcfj`" `B]Y`hcf`f`n`b]W`b]Y`g` `X]gdcn]M]z`U` `VYy]D<D`U`_`c` `7;` `=k`fUddYfz` df]dUXbY`U`_`c`dfc]fUa` `gdi`ghb` `n`df]_`Uncj`f`c`f]UX`i`" `DfY` `d`b` `ncnbUa` `dfYXXYZ]bcj`Ub`W`dfYa`Ybb`W`dfc]g]a` `dcnf]hY`U`dcy]hY`Z`b`W]` `d` `d]b`z`fl`"

Platnosť premennej

DUhbeg`dfYa`YbbY`^nzj`lg]cX`_cb]h]l`h`z]j`U`_`ca` `Vc`U`XYZ]bcj`Ubz`"BU`df]_`UX` `

Df`_`UX-`!(`"DUhbeg`dfYa`YbbY`^

```
1
2 $a = 1;
3 include "b.inc";
4
```

H 'a z'dfYa Ybbz'~ U'd'Ufbcg 'U^j 'jW Xcj Ubca 'g' VcfY'V'jBWBudf' UXj 'i yj UHY_g_mXYZbcj UbY^Z b_Vj'a ' yY'a U 'dfYa Ybbz'U' 'c_z'bi 'd'Ubcg '!^Y'j]WU]ncj Ubz'Yb'j 'hY'Z b_VY'

Df' UX- !)"; 'cVz'bUU'c_z'bUdfYa Ybbz

```
1
2 $a = 1; /* globálna premenná */
3
4 Function Test () {
5     echo $a; /* referencia na lokalnu premennu */
6 }
7
8 Test ();
9
```

HMbr'g_f]dhbYj ndjY'b] žbU_c_c'c_z'bUdfYa Ybbz'~ U'bYcVgU'i 'Y'b] žbUj nY'Y'bVc'U'Ub]j]WU]ncj Ubz'"H 'Y'nbza ni^XYb'fcnXY' cdfch'U'mi '7ž_XY['cVz'bY'dfYa Ybbf'g' 'U' lca U]Wmidfigi dbf'U^j 'c_z'bY^Z b_VjžU_ 'bYVc']dfYd]gUbf'c_z'bci 'dfYa Ybbci '"J 'D<D' a i g]U'Vm['cVz'bY'dfYa Ybbf'XY_'Ufcj Ubf'dca cWi 'g'cj U['cVU'j 'hY'Z b_VY'

Df' UX- !*"DfYa Ybbz 'ndi '['cVU

```
1
2 $a = 1;
3 $b = 2;
4
5 Function Sum () {
6     global $a, $b;
7
8     $b = $a + $b;
9 }
10
11 Sum ();
12 echo $b;
13
```

G_f]dhj ndjY'" "'8Y_'UfzVci 'U'U'V'U_c['cVz'bY'dfYa Ybbf'j 'hY'Z b_VY'i a cyb]c'jW'bUd'bYb]Y'U'bUdf]Y_'lca i žyY'g' 'dci y]hf'j ' hY'Z b_VY'"5_ 'X' ^XY_'jW'na YbY'j 'hY'Z b_VY'ž'z'lc'na YbU'Vi XY'd'Uhbz'U'a]a c'bY'"8fi '\ci 'a cybcg ci 'dci y]h]U['cVz'bnW' dfYa Ybb 'W'^Y'j ni y]hY'ydYVž'bY'XYZbcj Ubf^c'UgcVU]j bY'c'dc U'; @C65@G.'

Df' UX- !+*"DfYhncj Ub]YbU'cV^Y_h

```

1
2 $a = 1;
3 $b = 2;
4
5 Function Sum () {
6     $GLOBALS["b"] = $GLOBALS["a"] + $GLOBALS["b"];
7 }
8
9 Sum ();
10 echo $b;
11

```

bcia cybcg ci ^Y dci y|Hj gHjWY^dfYa YbbY" GHjWz dfYa Ybbz Yl |hi ^Y Ybj hYYZ b_WZbYgfUj jU_ d'Ubcg zU_ 'i dfc[fUa cdi gHj

Dft `UX- !, "BYZ b_ bz`gHjWz`dfYa Ybbz

```

1
2 Function Test () {
3     $a = 0;
4     echo $a;
5     $a++;
6 }
7

```

i b_WU^YbYZ b_ bzzbU_c_cj yXnj ndYbi i 'U'buGhJ f~'U'bu"\$G_•ghYj yU_ hlc.

Dft `UX- !- `GHjWz`dfYa Ybbz

```

1
2 Function Test () {
3     static $a = 0;
4     echo $a;
5     $a++;
6 }
7

```

GHjWf`dfYa Ybbf`dcb•_U^`a cybcg `dfzW`gfy_i fnlci "FY_i fnj bUZ b_WU^YZ b_WUz`rcfz j c`z`gUa U`gYU"BUgYXi ^W`Z b_WU`fy_i fnj bYdc #UXc`%S`UnUgUby"

Dft `UX- !%\$"GHjWf`dc #UXc

```

1
2 Function Test () {
3     static $count = 0;
4
5     $count++;
6     echo $count;
7     if ($count < 10) {
8         Test ();
9     }
10    $count--;
11 }
12

```

Premenná premenných

BjY_YXm^Yi ý]hc bf'dci ý]j U 'U^a Ybc'dfYa YbbYž'bUdfĚ UX'df]XmbUa]WY^]b]WU]rzW]dfYa Ybb W" Bcfa z`bU'dfYa Ybbz `Y'bUd`bYbz` hU_hc.`

DfĚ UX- !%@"DfYa Ybbz'dfYa YbbY^

```

1
2 $a = "hello";
3

```

DfYa Ybbz'dfYa YbbY^ncVYf]Y\cXbcli'dfYa YbbY^UgdfUW/Y'i 'U_c'bzncj'dfYa YbbYž'hU_hc.`

DfĚ UX- !%@"DfYa Ybbz'dfYa YbbY^

```

1
2 $$a = "world";
3

```

J`hca hc`VcXY`Vc`]XYZ]bcj Ubf`Xj Y'dfYa Ybbf`j `D<D~ U`cVgUi ^Y``Y`c``U'dfYa Ybbz ``\Y`c`cVgUi ^Y``k`cf`X``DfYhc'dfĚ Un.`

DfĚ UX- !% "DfYa Ybbz'dfYa YbbY^

```

1
2 echo "$a ${$a}";
3

```

Vi XY[YbYfcj U`fcj bU_`j`g`YXc_`U_c`

DfĚ UX- !%("DfYa Ybbz'dfYa YbbY^

```
1
2 echo "$a $hello";
3
```

c`rbUa YbzžyY`cVUj młłi `Y`c`kcfX`

J`dfđUXYZ`yY`dci`yđ UH`dfYa Ybb`dfYa YbbY^j`g`j`lg`cg`g`dc ca ž`Y`bi Hb`dUfgYfi`i`f`j`ž`c`Y`dc`Y`U`c`dfYa Ybbz`dfYa YbbY^m`DfY`dc`Y`
`~`UO`Qa`i`gh`n`UXU`.`~`o`~`UO`Q`i`UYVc`~`o`~`Uq`O`Q`!`dcXU`h`c`z`c`W`W`h`h`

10. HTML formuláre

HTML Formuláre (GET a POST)

>Um`i`<HA@cVgU`i`Y`dc`X`d`c`f`i`Z`c`f`a`i`z`f`c`j`ž`_`h`c`f`f`g`•`y`l`d`f`Y`b`U`#`U`j`U`b`j`X`z`h`c`X`d`c`i`y`đ`U`h`Y`U`":`c`f`a`i`z`f`j`m`n`Y`z`_`U`c`X`j`U`c`[`c`j`_`V`c`l`j`_`c`_`b`Y`
`d`f`Y`_`j`U`X`U`_`U`ž`a`_`y`Y`c`V`g`U`c`j`U`_`h`U`_`h`_`U`ž`_`Y`X`l`h`c`j`U`M`Y`_`V`c`l`n`ž`_`l`g`h`V`c`l`n`ž`_`n`U`y`_`f`h`z`j`U`M`Y`_`U`d`f`Y`d`b`U`M`Y`_`h`U`_`h`_`U`U`_`b`f`_`c`a`d`c`b`Y`b`h`m`_`G`W`_`d`h`i`n`g`_`U`b`f`
`X`z`H`U`n`Z`c`f`a`i`z`f`U`g`d`f`U`W`_`Y`U`j`_`g`Y`X`c`_`c`X`c`y`Y`b`U`c`_`b`c`_`d`f`Y`_`j`U`X`U`_`U`

J`U`m`i`<HA@g`•`y`l`d`f`Y`j`_`c`y`Y`b`j`Y`Z`c`f`a`i`z`f`U`X`c`_`g`h`f`z`b`_`m`i`H`j`_`:``C`F`A`"Az`X`j`U`U`f`j`V`•`h`m`57H`C`B`"U`A`9H`C`S`"5`h`f`j`V`•`h`57H`C`B`i`f`_`đ`I`F`@`
`U`X`F`Y`g`i`_`g`_`f`_`d`h`i`_`ž`_`_`h`c`f`_`_`g`•`y`l`d`f`Y`_`g`d`f`U`W`_`j`U`b`j`Y`X`z`h`i`n`g`_`U`b`_`W`_`n`_`X`U`b`f`_`c`_`Z`c`f`a`i`z`f`U`"5`h`f`j`V`•`h`A`9H`C`S`i`f`_`ž`_`U`_`a`_`g`d`_`g`c`V`c`a`_`V`i`X`•`X`z`H`U`n`
`Z`c`f`a`i`z`f`U`d`f`Y`X`U`b`f`_`g`Y`f`j`_`Y`f`i`_`ž`_`V`i`_`_`a`_`Y`h`C`X`c`i`_`;`9`H`_`h`c`f`z`_`d`f`j`d`c`_`đ`_`d`f`Y`b`z`y`U`b`f`_`X`z`H`U`n`U`I`F`@`c`X`g`i`_`y`b`f`_`c`_`g`_`f`_`d`h`i`_`U`Y`V`c`_`a`_`Y`h`C`X`c`i`_`D`C`G`H`_`h`c`f`z`_
`n`U`_`c`a`_`d`c`b`i`_`Y`_`d`f`Y`b`z`y`U`b`f`_`X`z`H`U`X`c`_`h`r`U`<`H`D`"N`z`_`U`X`Z`c`f`a`i`z`f`U`V`m`i`a`_`U`_`X`c`X`f`j`j`U`_`b`U`g`Y`X`i`_`^`W`_`g`n`b`h`U`_`.

O: CFA`57H`C`B`1`Î`I`F`@`g`_`f`_`d`h`i`_`Í`A`9H`C`S`1`Í`; 9HDCGHÍ2

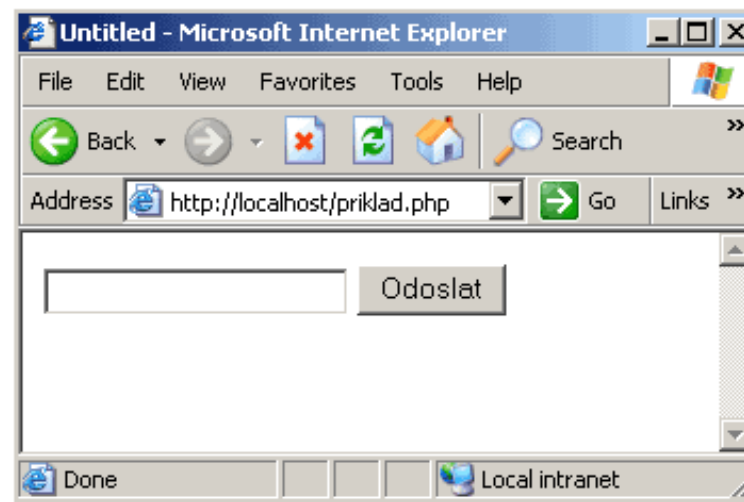
.....h`c`Z`c`f`a`i`z`f`U`.....

O# CFA2`

J`dfđUXYZ`U`_`I`F`@`g`_`f`_`d`h`i`_`b`Y`n`U`X`z`a`_`Y`ž`g`d`f`U`W`_`j`z`j`U`Z`c`f`a`i`z`f`_`c`j`b`U`_`_`g`_`f`_`d`h`i`_`c`_`g`U`_`U`g`h`c`_`j`_`m`_`i`_`y`đ`U`"5`_`_`Y`c`X`c`g`U`b`_`_`<`H`A`@`Z`c`f`a`i`z`f`ž`j`_`y`h`_`m`i`
`d`f`Y`a`_`Y`b`b`f`_`n`_`h`c`_`h`c`_`Z`c`f`a`i`z`f`U`_`Y`a`_`c`y`b`f`_`j`_`m`_`i`_`y`_`_`U`d`c`i`_`y`_`_`j`_`_`D`<`D`_`_`

Df`_`U`X`%`\$`!`%`">Y`X`b`c`X`i`W`_`_`<`H`A`@`Z`c`f`a`i`z`f`_`c`X`c`g`U`b`_`_`d`c`a`_`c`W`i`_`_`a`_`Y`h`C`X`i`; 9HUDCGH

```
1
2 <form action="skript.php" method="get" enctype="multipart/form-data">
3 <input type="text" name="meno">
4 <input type="submit" name="akcia" value="Odoslat">
5 </form>
6
7 <form action="skript.php" method="post" enctype="multipart/form-data">
8 <input type="text" name="meno">
9 <input type="submit" name="akcia" value="Odoslat">
10 </form>
11
```



CVf"%%!<HA@Zfa i `zf

Jc`Zfa i `zfcW`^Ya cybf`dci yj U `f` nbYYa Ybmz`bUdf`_UX`H9LH5F95Z`=BDI`H9G9@97H9@569@: `=9@8G9H96I`HCB"8cdcfi`i`Ya`dfYhi`Xej`U`<HA@df`fi`_i`fk`k`k`k`Wcf`L

Dc`cXcg`Ub`D`Dj`nj`cf`dfYa`Ybb`~`bUa`Yz`_hcfz`Vi`XY`cVg`U`ej`U`rcz`c`gh`n`UXU`]`Xc`dc`z`_U`A`Ybc`j`c`JUyca`Zfa`i`zf`]"

I dencfbYb]Y

D`D`cXj`Yfn]Y`("91`dci`yj`U`]b`hml`cXcj`nXzj`Ub]Y`dfYa`Ybb`W`"<cfYi`j`YXyb`hml`^Ybi`hbf`]a`d`]MhY`dcj`c`]`j`c`Vci`FY`]ghf`;`cVUg`1`Cb`j`g`VcfY`d`d`]b`]"

J`bcj`Y`j`Yfn]]`D`D`^Ybi`hbf`df]gh`i`dej`U`_`nig`_Ub`a`dfYa`Ybb`a`dca`cWi`Ugc`VUhg`bnW`dc`z`~`<HDSDCGHSJ5FG`z`~`<HDS;`9HSJ5FG`U`~`<HDSDCGHS;`=@G

Df`_UX%&!&"]>YXbcXi`W`<HA@Zfa`i`zf`cXcg`Ub`dca`cWi`a`YhXni`9HUDCGH

```
..%0Zfa`UM]cb1`""a`YhcX1`dcgh`YbVmdY1`a`i`hdUfh`Zfa`!XU`U`2`
..&0HUVY`ZUa`Y1`Vel`fi`Ygl`bcY`VefXYf1`%W`dUX]b]1`(`2`
..`0f20hx2`A`Ybc`.....0`#X20hx20`=BDI`HMD91`H9LHB5A91`A`Ybc`.....G`=N91`$20`#X20`#f2`
..(`0f20hx2`Df]Yrj`]g_c`0`#X20hx20`=BDI`HMD91`H9LHB5A91`Df]Yrj`]g_c`G`=N91`$20`#X20`#f2`
..)`0f20hx2`9!a`U].`.....0`#X20hx20`=BDI`HMD91`H9LHB5A91`9a`U]`.....G`=N91`&$20`#X20`#f2`
..*`0`#LVY2`
..+`..
..,`062`Gi`\\Ug]a`g`cXcg`U]ja`hc`hc`XcHUb]_U`0`#6206F206F2`
..-`..
..%$0]bdi`hmdY1`Gi`Va`]hbUa`Y1`Dclj`fXYb]Y`j`Ui`Y1`5bc`2`
..%00]bdi`hmdY1`Gi`Va`]hbUa`Y1`Dclj`fXYb]Y`j`Ui`Y1`B]Y`206F2`
..%&0`#Zfa`2`
..`
```

Ug`dfY`gdfUWj`Ub]Y`dfYa`Ybb`W`a`^yY`j`mYfU`bUdf`_UX`HU`hc.

DfĹ UX%\$!' "GdfUWj UbjY^YXbcXi Wf\ c Zfa i zfU

```
1
2 <?php
3 echo $Meno; //povolene Register Globals = on
4 echo $HTTP_POST_VARS["Meno"]; // nove PHP
5 if ($HTTP_POST_VARS["Potvrdenie"]!="Ano")
6 echo "Dakujem za udaje";
7 else
8 echo 'No nic...';
9 ?>
10
```

D<DhYy dcXdcfi Ydc Juj c Zfa YZfa i zfcj W dfYa Ybb W" DfĹ UXng UbJUdc Un'a i hgYYMi .

DfĹ UX%\$!("Ai hgYYMi

```
1
2 <form action="array.php" method="post" enctype="multipart/form-data">
3     Meno: <input type="text" name="personal[name]"><br>
4     Email: <input type="text" name="personal[email]"><br>
5     Pivo: <br>
6     <select multiple name="beer[]">
7         <option value="tatran">Tatran
8         <option value="bazant">Zlaty Bazant
9         <option value="krusovice">Krusovice
10    </select>
11    <input type="submit">
12 </form>
13
```

5_ ^YnUdbi lz _cbZ[i fU bz j c VU D<D' hfUWSj Ufg ždelca ^Ya cýbf _ nig Ub a dfYa Ybb a dca cWi a YtX DCGH]; 9Hdf]gfi dcj U
U^j [cVz bnW UgcWUuj bnW dc JUV ~ <HDSDCGH5FGZ~ <HDS; 9H5J5FGZ~ <HDSDCGH5:=@G"J bcj Wj YfnzW ^Yhzlc
a cýbcg _j']VYndY bcgh nUdbi lz ja d JMbY"

OBRÁZKOVÉ TLA IDLO

Df]cXcgYUb Zfa i zfU ^Ya cýbf bUa jYgrc _ UgjWf\ c hM hcj f\ c hU fh U dci j] U^cVfzn_cj fzbUdfĹ UXj ni ý]hĹa HU i .

DfĹ UX%\$!) "CVfzn_cj fhU jXc

```
1
2 <form action="" method="post" enctype="multipart/form-data">
3 <input type="image" src="image.gif" name="sub">
4 </form>
5
```

Df]ghU Yb†hU |XU'Vi XY'gYfj Yfi 'cXcj nXUbz 'U^dc`c\U'ghU Yb]U'dca cWi 'dfYa YbbzW~`g VSI 'U~`g VSm†

Df†`UX%\$!*"?ca d'Yhb <`HA@Zfa i `zf'gc'gdfUWj Ub†a `g f]dHd\ d

```
1 // Register global = on
2 <?php
3 function spracujForm() {
4 global $odosli,$meno,$priezvisko,$heslo;
5 echo "Meno - ".$meno.NL;
6 echo "Priezvisko - ".$priezvisko.NL;
7 echo "Heslo - ".$heslo.NL;
8 echo '<a href="skript.php">Reload</a>';
9 } //spracujForm
10
11 function showForm() {
12 ?>
13 <html>
14 <head>
15 <title>Zadavanie dat</title>
16 </head>
17 <body>
18 <h1>Zadaj data</h1>
19 <hr>
20 <form action="" method="post">
21 Meno: <input type="text" name="meno"><br>
22 Priezvisko: <input type="text" name="priezvisko"><br>
23 Heslo: <input type="password" name="heslo"><br>
24 <input type="submit" name="odosli" value="Odoslat">
25 </form>
26 </body>
27 </html>
28 <?php
29 }
30
31 define("NL","<br/>\n");
32 if ($odosli=="Odoslat") spracujForm();
33 else showForm();
34 ?>
35
```

HTTP sušienky (cookies)

D<D'hfUbgdUFYbhbY'dcXdcfi ^Y<HD'gi ý]Yb_midcXU'XYZbMY'j `ydYVWz_zW'B9HG75D9"Gi ý]Yb_mUYVc'7cc_]Yg^Y'a YWUb]na i g'i f Yb `dfY'i `cýYb]Y'XzhbU'j nX]UYbca `dfY\`JUXU]'U'h a `cnbU Yb]Y'U'XYbhZ_zW] `i ý]j UhY cj "'Gi ý]Yb_i `fm'c_]YÉ^Y'a cýb'f'bUghj] `Z b_V]ci `GY7cc_]YÉ"Gi ý]Yb_mig•` Ug ci `<HD\`Uj]_nz`hU_ýY'j c'Ub]Y'GYb7cc_]Y'a i g'f'bu'ghU `dfY'X'cgc`Ub†a `cW_ W`XzhdY\`JUXU i `!`hlc`cVa YXnYb]Y'd`Uh†U^dfY`Z b_V] `<YUXYfE"JýYh_migi ý]Yb_mig•`Ui hca Uh]W_m_cbj Yftrj Ub'f'bU'ncXdcj YXU^W`dfYa Ybbf`D<D'! `dcXcVbY`U_c`df]`a YhXUW`; 9HU'DCGH'

5_`WWW`bUgHj] j]UW`cXb` hj `YXbY^gi ý]Yb_Ydf]XU`W`Q`_bznj i `gi ý]Yb_ni`Df`_UX`

Df`_UX`\$!+"BUgHj Yb]Y`Wc_]Y`g`d`Ubcg ci `%\`cX]bU

```
1
2 SetCookie ("MojaCookie[]", "Test", time()+3600);
3
```

B]YnUvi Xb]hZ`yY`_UyXz`gi ý]Yb_U`bU`fUX`dfYXWzXnU`W`g`fcj bU`_ a `bznj ca ždc_]U`b]Y`^Y`na YbYb `dfY`]UXU`_Ub]`Xca`fbU`Df`_UX`dfY`bz_i`db`_`cý`_ž`_lcf`_Vi`XY`fY`dY`_lcf`U`_fcnX]Y`bnW`_`]Yb]lcf`_!`c`Va`YXnYbY`""`

Df`_UX`\$!, ""7cc_]Y`dfY`dc`Xlcfi`_`cý`_U

```
1
2 $Count++;
3 SetCookie ("Count", $Count, time()+3600);
4 SetCookie ("Cart[$Count]", $item, time()+3600);
5
```

Premenné prostredia

D<D`U`l`ra`U`h]W`m`_`cbj`Yfi`^Y`dfYa`Ybbf`dfcgfYX]U`bU`bcfa`z`bY`D<D`dfYa`Ybbf`

Df`_UX`\$!- ""J`d]g`dfYa`YbbY`^<CA9

```
1
2 echo $Home; /* zobrazí nastavenie premennej prostredia Home, ak je nastavená*/
3
```

B]U`c`_`c`g`_j`ýU`_]bZ`fa`z`WY`ng`_U`b`f`d`ca`c`W`i`_`g`i`g`ý]Ybc`_`UYVc`a`Y`l`X`";`9H`U`D`C`G`H`U`l`ra`U`h]W`m`_`cbj`Y`f`l`c`j`U`b`f`d`f]U`a`c`b`U`d`f`Ya`Y`b`b`f`z`^Y`b]Y`_`Y`X`mi`ý]l`c`_`b`f`^Y`d`]W`b`Y`d`f`Y`_`U`_`d`f`Ya`Y`b`b`_`d`f`c`g`f`Y`X`]U`z`b`U`d`f`_`UX`d`ca`c`W`i`_`Z`_`b`_`W`Y`_`[`Y`b`b`j`_`f`l`_`D`f`Ya`Y`b`b`_`d`f`c`g`f`Y`X`]U`h]Y`a`_`_`ý`Y`h`_`b`U`g`H`j`_`]`d`ca`c`W`i`_`Z`_`b`_`W`Y`_`_`d`i`_`h`b`j`_`f`l`_`

Bodka v získaných premenných

D<D`c`V`j`_`m`_`Y`b`Y`d`U`f`g`i`^Y`ng`_U`b`f`d`f`Ya`Y`b`b`f`z`d`f`l`c`ýY`j`_`ýU`_`V`c`X`_`U`b]Y`^Y`d`c`j`_`c`Y`b`_`a`_`n`b`U`_`ca`_`j`_`b`z`n`j`_`Y`d`f`Ya`_`Y`b`b`_`W`z`D<D`V`i`_`X`Y`_`[`_`Y`b`Y`f`c`j`_`U`_`W`n`V`i`_`ž`U`_`J`U`ý`U`d`f`Ya`_`Y`b`b`z`_`V`i`_`X`Y`_`j`_`b`z`n`j`_`Y`_`c`V`g`U`_`c`j`_`U`_`V`c`X`_`i`_`

Df`_UX`\$!`\$`"BY`g`d`f`z`_`bn`b`z`n`c`j`_`d`f`Ya`_`Y`b`b`Y`^

```
1
2 $varname.ext; /* chybný názov premennej */
3
```

D<D'Ui lra UhWmbU fUXtj yYh_mVcX_mrbU_ca 'dcXlfybł''

Získanie typu premennej

Bu_c_c'D<D'bydeg_nli ^Y'a YWUbjra i g'Yl d'Wb^c i f Yb]U'ndi ž^Y'a cýbf'nd'dfYa YbbY^]bX]_cj U j c'Ubž 'Z b_V] [YHndYHž']gS`cb] flž]gSXci VYHž]gSg]f]b] flž]gSuffundž U]gScVYHfl''

11. Konštanty

D<D'XYZbi ^Yj]UW_cbyłzbbUdeg_nli ^Y'a YWUbjra i g'_]W'XYZbcj Ub]i 'df]'VY'i 'dfc[fUa i ""?cbýHblmigU'dci ý] U^'fcj bu_c_c' U_c' dfYa Ybbfž]b]U]ncj Ub'f'g' j ýU_ 'dci ý]hž 'Z b_VY'XYZ]bYHfl'U'dc]b]U]rzw]i ý'bYa ' ýi 'ra Yb] '\cXbci ''

DfYXYZbcj Ub'_cbýHblmig' . '

SS: =@SS'

Bzncj 'g_f]dli ž_łcf ' ^Y'j 'g' Ugbcgh]gdFUWj zj Ub "'J'df]dUXž ýY^Y'dci ý]hž']bW Xcj Ubca 'g' VcfYž ^Y'j fzhYb'f'a Ybc']bW Xcj Ub'f'c'g' Vcfi žb]Y'g' Vcfi ž_łcf ']bW Xcj Ub 'g' Vcf'nUj c'U''

SS@-BSS'

łg'c'f]UX_i j 'g_f]dliž_łcf ' ^Y'dfzj Y'dUfgcj Ub ''''

D< DSJ9FG-CB'

Jfzł] 'łg'c'j Yfn]Y'D< Dž'bUdfł_ 'UX'fł '&'&fł'

D< DSCG'

Jfzł]bzncj 'cdYfU b'f'c'g'ghf'a i žbU_łcfca 'D<D'VYžž'bUdfł_ 'UX'fł]bi l fł'

HFI 9'

\cXbcHU'łfi Y'

: 5@G9'

\cXbcHU'ZU'gY''

9S9FFCF'

CnbU i ^Y]b' ^WnVi 'bYy'WnVi 'df]'dUfgcj Ubž'g_f]dli žb]Y'^Y'a cýbf'nchUj Yb]Y''

9SK 5FB=B; '

CnbU i ^Y'ghUj ž_XY'D<Dj]Yž ýY'b]Y c'b]Y'^Y'j 'dfc]UX_i žUY'dc_fU i ^Y' UY^j 'gdFUWj Ubž'g_f]dli ''Dfł_ 'UX'ca 'a' ýY'Vm'WnVb ' fY[Yl d'j fUn]c'Z b_V] 'YFY' fl''

9SD5FG9'

DUfgYf'cnbza]^WnVi 'df]'dUfgcj Ubž'g_f]dli ''NchUj Yb]Y'b]Y'^Y'a cýbf''

9SBCH-79'

GHUc'gU'by] cž 'c'a ' ýY'Vm'WnVci 'U'bya i gł''GdfUWj Ub]Y'g_f]dli 'dc_fU i ^Y'U^' UY''''

?cbýHblmi9Sl 'g' 'dci ý] Ub'f'j c'Z b_V] 'Yf'cfSfYdcfl]b] fl'dfY'XYZbcj Ub]Y' ^fcj bY'W 'V'A' ýYh' hYy'XYZbcj U 'U^]b'f'_cbýHblmidci ý]hž ' Z b_VY'XYZ]bYHfl'BYnUvi Xb]hž ýY'_cbýHblmb]Y'g' ?! '_cj f'a U_fzž]VU'd'Ułb 'g_Uzf'a ' ýY'Vm'_cbýHblrci ''

Dfĭ `UX%4%"8YZ]bcj UbjY_cbyHbhm

```
1
2 <?php
3 define("CONSTANT", "Ahoj svet.");
4 echo CONSTANT; // vypise "Ahoj svet."
5 ?>
6
```

Dfĭ `UX%4%"Dci y]HYSS: =@9SS USS@-B9SS

```
1
2 <?php
3 function reportError($file, $line, $message) {
4     echo "Nastala chyba v skripte $file na riadku $line: $message.";
5 }
6
7 reportError(__FILE__, __LINE__, "Nieco sa stalo!");
8 ?>
9
```

12. Výrazy

J fUnmg•'nz_`UXb a 'ghLj Yvb a '_Ua Y ca 'D<D'J 'D<D'Y'a cýbf'g_cfc'j ýYh_c'nUdĭgU `U_c'j fUn"BU^U`ýĭa 'gd' gcVca ž'U_c`XYZ]bcj U`
j fUn^Y`j ýYh_c`c'a z`cXbchi ""

BU^ UghY`yci `Zcfa ci j fUncj `g•`_cbýHbhmUdfYa Ybbf""5_`bUdĭYhY`~`U1`) `ždf]fUX]hY`cXbchi `ĭ ĭ ĭ Xc`dfYa YbbY^~`U"ĭ ĭ ĭ a z`cVj m`Y`
cXbchi`) žUYVc`ĭb a]g`cj Ua]ĭ ĭ ĭ Yj fUn'g`cXbchci`) `ĭ ĭ ĭ hca ĭc`df]dUXY`Y`ĭ ĭ ĭ Wc`ĭgYbz`_cbýHbHL"

Dc`hca ĭc`df]fUXYbĭa `ýYa Y`c U_zj U žýY`dfYa Ybbz`~`U`Vi XY`a U `hY`y`cXbchi`) žHU`ýY`U`_bUdĭYa Y`V1`~`Už`Vi XY`ĭc`a U`fcj bU`
•]bc`_U_c`Vmiga Y`bUdĭgU]`~`V1`) ""=b a]g`cj Ua]ž`~`U`Yj fUn'g`cXbchci`) ""

Ncý]hY`ý]Ydfĭ `UXmj fUncj `g•`Z`b`WY`

Dfĭ `UX%4%">YXbcX Wz `Z`b`Wj fUW`•`W)

```
1
2 function foo () {
3     return 5;
4 }
5
```

DfYXdc_`UXza žýY`i ýfcni a]hY`df]bWĭi `Z`b`Wĭ"5_`b]Yždcnf]hY`g]dfcgĭa `Ud]ĭc`i j Ybcj Ub•`Z`b`Wĭa ""5_`bUdĭYhY`~`Wĭ`Zcfl`^Y`ĭc`
fcj bU`_f`U_c`VmighY`bUdĭgU]`~`Wĭ`)"": i b`WY`g•`hYXUj fUra]g`cXbchci`]W`bzj fUrcj Y^`cXbchmi`?Y`ýY`Zcflj fUMU) ž`cXbchUj fUni`
Zcflfi`Y)`"CVj m`Y`Z`b`WY`bUa]Ygr`g]U]Wf`c`j fUni`j fUW`•`j nĭc`ĭHb`•`cXbchi ""

D<D'bYdcXdcfi ^Y`Yb`Wc` gYbf`cXbcmz`UYU`]bf`hmlmg_Uzfcj`!`bYWc` gYbf`U`fY`UnW`G_Uzf`Y`cXbcHŁ`_rcfz`i`y`bYa` `yYVm`
fcnXY`Ybf`bU`a`YbY`Y` Ughz`bUdf`_UX`U`c`dc`Y`rc`nbUa`Ybz`z`yY`dc`Y`bY`Y`g`Uzf`D<D`hYy`dcXdcfi`^Y`Xj`U`_ca`dcn]`bf`hmlnz`_rcff`bY`g`
g_Uzfa`]`!`cV`Y`_hmU`dc`]U`

I`y]j`UhY`]U`ghUfy`W`j`Yfn]`D<D`#`=`&#D<D` `gU`bYa`i`gl`U`cVzj`U`"D<D`gdfUW`j`zj`Uj` fUmfecj`bU`_c`U`_c`]b`f`^U`nm`n`D<D`Y`j` fU`ncj`c`
cf]Ybrcj`Ub` `^U`m`z` `c`nbUa`Ybz`z`yY`g`_cfc`j`y`h`c`^Y`j` fUn`BUdf`_UX`bY`c`U`_c`fi`V`1`ff`U`1` `) `f`i`Y`j` UghbY`g`_fz`h`bz`Z`efa`U`fi`U`1` `) /`~`V`1`
) /fifVcX`_c`]U`_U`nbUa`Ybz`_cb]YWdf`_Uni`E`bU`_c`_c`j` fU`nig`_gdfUW`j`zj`Ub`f`gdfUj`U`Xc`Uj`U`z`a` `y`Ya`Y`h`Y`b`U`d`ig`U`_fi`V`1` `~`U`1` `) `fi`

=> `XcVf` `df`_UX`bU`dci`y]hY`j` fU`ncj`^Y`]b`fYa`Yb]z`WU`U`XY`fYa`Yb]z`WU`D`cnbza`Y`dfY`U`dcghj`Yfn]i`h`W`rc`cdYfz`W`>YX]b` `fcnX]Y`^Y`j`
dcfUX`z`j`_U`ca`X`^XY`_dfYX`Ubj` `cXbcmi`Unj` `y`Ybj`nb`y`Ybj` `df`g`i`y`bY`^dfYa`YbbY`"

Uy`fa`nbza`na`hmlca`j` fU`ncj`^Y`dcfcj`bzj`Ub]Y`j` fU`ncj`"H]Yrc`j` fU`nmij`fUW`^`Vi` `S`UYVc`%`z` `c`nbU`f`:`5@G9`#bYdfUj`XU`#UYVc`HF`I`9`
#dfUj`XU`#nL`"D<D`dcXdcfi`^Y`2`fj` }`y`f`bYy`Lz`2`1`fj` }`y`f`UYVc`fcj`b`Lz`1`1`ffcj`b`Lz`1`1`fbYfcj`b`Lz`0`fa`YbY`L`UbX`0`1`fa`YbY`f`UYVc`fcj`b`E`"
H]Yrc`j` fU`nig`U`bU`UghY`y]Y`dci`y]j`U`^`j`dcXa`]b`_UWz`bUdf`_UX`df]j`Ylj`Yb`f`dfc`[`fUa`i`"

Uy`fa`hmlca`j` fU`ncj`^Y`hfbzfbnicdYfz]cf.`

Df`_UX`%&!`&`HfbzfbnicdYfz]cf`

```
1
2 $first ? $second : $third
3
```

5_`Y`cXbcH`U`dfj`f`c`j` fUni`bYbi`c`j`z`#dfUj`XU`!`hfi`Y`z`^Y`j`m`cXbcH`Yb` `Xfi` \ `j` fUnz`]bU`^Y`j`m`cXbcH`Yb` ` `j` fUn`"

Df`_UX`%&!`"J`fU`m`

```
1
2 function double($i) {
3     return $i*2;
4 }
5 $b = $a = 5;          /* priradi hodnotu 5 do premennych $a a $b */
6 $c = $a++;           /* post-inkrement, priradi povodnu hodnotu $a
7                       (5) do $c */
8 $e = $d = ++$b;      /* pre-inkrement, priradi zvyssenu hodnotu
9                       $b (6) do $d a $e */
10
11 /* v tomto bode su $d a $e rovnake a maju hodnotu 6 */
12
13 $f = double($d++);   /* priradi dvakrat hodnotu $d pred zvyssanim,
14                       2*6 = 12 do $f */
15 $g = double(++$e);   /* priradi dva krat hodnotu $e po zvysseni
16                       2*7 = 14 do $g */
17 $h = $g += 10;       /* najprv je $g zvyssena na 10 a skonci s hodnotou 24.
18                       potom je tato hodnota priradena do
19                       premennej $h, a $h skonci tiez s hodnotou
20                       24. */
21
```

13. Operátory

Aritmetické operátory

DŮa } lzHŷ'gU'Yyhŷ'bU'rz_ 'UXninc 'ý_c`n8`

HUM _U% !%"5f]ha YhŷWf'cdYfzlcfm

Dfŷ_ UX	bzncj	j g'YXc_
~U'Ž ~V	G #Hb]Y	g• Yh~ U'U~ V"
~U!' ~V	CX #Hb]Y	fcnX]Y~~ U'U~ V"
~U'ŷ ~V	BzgcVYb]Y	g•]b~ U'U~ V"
~U'#~ V	8Y'Yb]Y	dcX]Y~~ U'U~ V"
~U'1 ~V	AcXi `c	nj nýc_~~ U'df]'XY'Yb#~ V"

Operátory priradenia

Nz_ UXb `cdYfzlc f'df]fUXYb]U'Y'nbU_ "1 ~" "Jzý'dfj `Xc'Ya `a ` 'yY'VmžýY'lc'nbUa Ybz'fcj bz'gU'B]Y'"NbUa Ybz'lcždf]fU `cXbchi j fUni ` bU'dfUj Y^gfUbYj fUni `bU Uj Y^gfUbY"

Dfŷ_ UX% !&"Df]fUXYb]Y

```
1
2 $a = ($b = 4) + 5; // $a je teraz rovné 9, $b je nastavené na 4.
3
```

C_fYa `rz_ UXb f^c`cdYfzlc fU'df]fUXYb]U'Yl]ghi ^ `hŷŷ~~_ca V]bcj Ub f'cdYfzlc f m' dfYj ýYh_mV]bzfbY'Uf]ha YhŷWf'cdYfzVŷ'U'cdYfzVŷ'g' fY UnWa]"

Dfŷ_ UX% !' "5f]ha YhŷWf'cdYfzlcfm

```
1
2 $a = 3;
3 $a += 5; // nastaví $a na 8, tak ako keby sme povedali: $a = $a + 5;
4 $b = "Ahoj ";
5 $b .= "svet!"; // nastaví $b na "Ahoj svet!", rovnako ako $b = $b . "svet!";
6
```

Dc'D'dcXdcfi ^Yi ý'U^cX_Unj c`Ub]a žbUdfŷ_ UX'HU'lc`~ dfYa YbbU1 / ~]bUdfYa YbbU/'FYZfYbWU'cX_Urca `nbUa YbzžýY'cV]Xj Y' dfYa Ybbf'ga Yfi ^ `bU'fcj bU_ `dUa } cj `Vc_žXzhU'a YXn]b]a]b]Y'g• `cd]fcj Ub fž]XY'j `Ug]bY'c`Xj U'dc]bfYž`hcf'f'ga Yfi ^ `bU'fcj bU_f' a]Yg]c`U'h a `dzXca `a U^ U^fcj bU_ `cXbchi "Na Ybci `cXbchi^YXb f^c`Ui lra U]W]m]na Yb]a Y`cXbchi `Xfi `f^c"

Logické a bitové operátory

I a cýbi ^ nUdb• ýdYVWV V|hj =BH; 9F]"

HUM _U% !("@"[WJfcdYfzlcfm

DfĹ UX	bzncj	j gYXc_
~U/ ~V	5bX	6 lmfcj bU_fj ~U~Vg• bUgHj Ybf
~Up~V	Cf	6 mi_hcf'g• bUgHj Ybf'j ~UUYVc~Vg• bUgHj Ybf"
~UR~V	Lcf	6 mi_hcf'g• bUgHj Ybf'j ~UUYVc~VUYb Y'g• 'fcj bU_f"
r ~U	Bch	6 mi_hcf'g• bUgHj Ybf'j ~U'b Y'g• bUgHj Ybf
~U00 ~V	dcgi b j Uj c	dcgi b YV miXc Uj U H
~U22 ~V	dcgi b j dfUj c	dcgi b YV miXcdfUj U H

Porovnávacie operátory

I a cýbi ^ dcfecj bU Xj Y\cXbcmi

HUM _U% !) "Dcfecj bzj UWJcdYfzlcfm

DfĹ UX	bzncj	j gYXc_
~U11 ~V	fcj bf	Hfi YU_ ^Y~ Ufcj bf~ V"
~U111 ~V	XYbhWJf	Hfi YU_ ^Y~ Ufcj bf_Uc~ VZUg• 'fcj bU_f\c' hndi " fYb j D<D(L
~U*1 ~V	bYfcj bf	Hfi YU_ 'b Y^Y~ Ufcj bf~ V"
~U0 ~V	a Yb Y	Hfi YU_ ^Y~ Ua Yb Y'bY~ V"
~U2 ~V	j} ý Y	Hfi YU_ ^Y~ Uj} ý Y'bY~ V"
~U01 ~V	a Yb YUYVc'fcj bf	Hfi YU_ ^Y~ Ua Yb YUYVc'fcj bf'bY~ V"
~U21 ~V	j} ý YUYVc'fcj bf	Hfi YU_ ^Y~ Uj} ý YUYVc'fcj bf'bY~ V"

=b dcfecj bzj UWJcdYfzlc'Y"3 ~fUYVc hYfbzfbnLcdYfzlcZ_lcf 'dfUW^Yfcj bU_c'U_c'j ^Um_i '7

DfĹ UX% !*"HfbzfbnicdYfzlc'f

```

1
2 (vyraz1) ? (vyraz2) : (vyraz3);
3

```

Hb|c'cdYfzlc'f'j m_cbz'expr2'U'expr1'^Y'fi YZ|bU_j m_cbz'expr3"

Operátory kontroly chýb

D<D'dcXdcfi ^Y^X|b 'HU_ hc'cdYfzlcZ'cdYfzlc'f'f4 L"5_ ^Y'j cýYb 'dfYX'j fUn'j 'D<DZ\cW_f'WnVcj f'\zgYfb|Y'[YbYfcj Ub'f'h a lc' j fUnca 'Vi XY|[bcfecj Ub'f"

5_ ^YnUdbi hf'g^Xcj Ub|YSW VZj ýYh miWnVcj f'\zgYb|U'Vi X' i cýYb'Xc'dfYa YbbY^~ d\ dSYffca g'"

DfĚ `UX% !+"Dcfcj bZj UW`cdYfzłcfm

```
1
2 <?php
3 /* vnútorná SQL chyba (extra apostrof): */
4 $res = @mysql_query( "select name, code from 'namelist" ) or
5     die( "Dopyt zlyhal - chyba je '$php_errormsg'" );
6 ?>
7
```

Vykonávacie operátory

D<D'dcXdcfi ^Yj m_cbzj UW`cdYfzłcfmffITL" D<D'gU'dc_•gl'gdi ghĚ dfĚ Un'i j YXYb Ě j'h Włc'cdYfzłcfcW'U_c'dfĚ Un'G< 9@a "

DfĚ `UX% !, "Jm_cbzj UW`cdYfzłcf

```
1
2 $output = `ls -al`;
3 echo "<pre>$output</pre>";
4
```

Inkrementa né/dekrementa né operátory

D<D'dcXdcfi ^Y'gnbĚU' ^UmĚU'7'dfY'jb_fYa YbhU bf`U'XY_fYa YbhU bf`cdYfzłcfmĚ

HUĚ _U% !- "'= _fYa YbhU bf#XY_fYa YbhU bf`cdYfzłcfm

DfĚ `UX	bzncj	YZ_h
Ž Ž ~ U	DfY!jb_fYa Ybh	nj ý]~ U'c`^YXYb`U'j fzĚ]~ U'
~ UŽ Ž	DcghĚjb_fYa Ybh	j fzĚ]~ UŽ'dclca `nj ý]~ U'c`^YXYb
!!~ U	DfY!XY_fYa Ybh	nbĚj]~ U'c`^YXYbž'dclca `j fzĚ]~ U'
~ U!	DcghĚXYWYa Ybh	j fzĚ]~ UŽ'dclca `nbĚj]~ U'c`^YXYb"

BY`U_ `i ý]lc b `dfĚ `UX`bU'dfYW] Yb]Y`

DfĚ `UX% !%\$"'=b_fYa YblzWU`U'XY_fYa YblzWU`

```

1
2 <?php
3 echo "<h3>Postinkrement</h3>";
4 $a = 5;
5 echo "Má by 5: " . $a++ . "<br>\n";
6 echo "Má by 6: " . $a . "<br>\n";
7
8 echo "<h3>Preinkrement</h3>";
9 $a = 5;
10 echo "Má by 6: " . ++$a . "<br>\n";
11 echo "Má by 6: " . $a . "<br>\n";
12
13 echo "<h3>Postdekrement</h3>";
14 $a = 5;
15 echo "Má by 5: " . $a-- . "<br>\n";
16 echo "Má by 4: " . $a . "<br>\n";
17
18 echo "<h3>Predekrement</h3>";
19 $a = 5;
20 echo "Má by 4: " . --$a . "<br>\n";
21 echo "Má by 4: " . $a . "<br>\n";
22 ?>
23

```

Logické operátory

HMI _U% !%@"c[]Wf'cdYfzlcfm

Dfł UX	bzncj	j gYXc_
~U'UbX~V	5bX	Hfi YU_ ~U'U^~V'g' 'hfi Y'
~U'cf~V	Cf	Hfi YU_ ^YXb'n~U'UYVc~V'g' 'hfi Y'
~U'lc'~V	Cf	Hfi YU_ ^YXb'n~U'UYVc~V'g' 'hfi YzUYb Y'cV Xj U
^~U	Bch	Hfi YU_ ~U'b Y'^Y' 'hfi Y'
~U//~V	5bX	Hfi YU_ ~U'U^~V'g' 'hfi Y'
~U'pp~V	Cf	Hfi YU_ ^YXb'n~U'UYVc~V'g' 'hfi Y'

Dfł j bUžyY Yl |gli ^ f' nbY'cdYfzlcfmidfY~UbX~U'cf~^Yy'dfUW^'g'f' nbci 'df]cf]lci "'fDcnf] [Df\]cf\]HU'cdYfzlcfcj](#) 'L'

Priorita operátorov

Df]cf]HU'cdYfzlcfcj 'XYZbi ^Yzj 'U_ca 'dcfUXf'gU'Vi X' j c'j fUnYj m'cXbcWj U "'BUdfł UX'j fUn 1 + 5 * 3ž^Yj gYXc_ '% 'bUa |Yg'c'%' 'dfYhc'y'cdYfzVU'bzgcVYb|Y'f'l 'L'a z'j nýjli 'df]cf]li 'U_c'cdYfzVU'g #Hb|Y'f'ž 'L'

BUGYXi ^W'HM_i Xzj Udf]cf]li 'cdYfzlcfcj 'cX'bUj nýY^dc 'bU'b|y'jli "'

HMI _U% !%@"Df]cf]HU'cdYfzlcfcj

GdfUWj UbjY	CdYfzłcf
nUj U	ž
nUj U	cf
nUj U	l cf
nUj U	UbX
gdfUj U	df]bh
nUj U	1 Ž1 !1 ě1 #1 "1 i 1 / 1 pl R1 r 1 '001 '221
nUj U	3:
nUj U	pp
nUj U	//
nUj U	p
nUj U	R
nUj U	/
bYUgcVUhj bU	11`1`111
bYUgcVUhj bU	0`01`2`21
nUj U	00`22
nUj U	Ž`!`"
nUj U	l`#1
gdfUj U	°`r`ŽŽ`!!`f]b]L`fXci`V`Y`f]f]b]`L`f]Uf]Un]L`f]c`V`Y`M]L`4
gdfUj U	O
bYUgcVUhj bU	bYk

Re azcové operátory

9l |ghl ^ Xj UfY UnWj f`cdYfzłcfm`Dfj a `Y`gdc`cj UW`cdYfzłcf`f]f]ž`łcf`j fzh`gdc`Yb]Y`dfUj`f`c`U`Uj`f`c`Uf[i a Ybli "8fi \z a `Y`cdYfzłcf`gdc`cj UW`c`df]fUXyb]U`f]f]1 fl`"DfY`j]UW]bZ`fa`zV]f`g]`dfY`#U`Y`D]f]UXcj`UMY`cdYfzłcfm`

Df] `UX% !% "Gdz`Ub]YfY UnWj

```

1
2 $a = "Ahoj ";
3 $b = $a . "svet!"; // teraz $b obsahuje "Ahoj svet!"
4
5 $a = "Ahoj ";
6 $a .= "svet!"; // teraz $a obsahuje "Ahoj svet!"
7

```

JýYh_mg_f]dlniD<D'lj cf]U'gff]Y'dfĚ_Uncj "DfĚ_Unca 'a ' ýY'Vm'df]fUXYb]Yžj fUnžj c'Ub]Y'Z b_WVžWĚ i g'UYVc'dcXa]YbYb 'dfĚ_Unž'dfĚdUXbY'U^dfznXbmi dfĚ_Un'DfĚ_UnmigU'cVj_m_Y'_cb]U'VeX_c]Uf_ci "'DfĚ_Unmia ' ýi 'Vm'nXfi ýYbf'Xc'Ve_cj 'dfĚ_Uncj ž_hcf'f'g' c\ fUb] Ybf'n'cýYb a]'nzlj cf_Ua]'o'q''

F]UX]UW'dfĚ_Unmlj cf]U'c[]_i 'dfc[fUa i 'UYVc'g_f]dli "'DcXU'•fcj bY'nzldgi 'Y'a cýbf'i g'X' ž_U_ 'j ngdY 'Vc'dfc[fUa zhcfcž_hcf 'XUb' 'Ud']_zWĚ ' j_nlj zfU''DfYrc'Yj \cXbf'XcXfýcj U 'dzf'nz_'UXb W'dfUj]X]Y'df]lj cfVY'dfc[fUa cj "'H]Yrc'dfUj]Xz'nj_m_bYa 'bUn_j_U'U''''

Štábna kultúra:

H'hc'_Ud]rc'i 'gca 'gYa 'nUfUX]'gWj z bYž'bU_c_c'g]rc'ý]UXU'g]hi zVU''Nc'j ýYcVYVĚ W'g'•gYbcgĚ'Y'nbza YžýY'bU'a Y'cXdcf' Ub]U'h_'U'W'gU'•dfUj mi dfc[fUa cj 'j_nj_c'zj_U'•bYWi 'U'cXdcf"Dc_]U'j ýU_'WWa Y'dgU'j } ýY'dfc[fUa nž'Y'bi hf'nUj]Yg 'bYU_'dcf]UXc_'U'U_'i ý'bY'U_'nUj]Yg žHU_'Y' nVnic bf'j na 'ýU' i ýj na ng'Ybf''HU_a Yf'nU_'UyX a 'cXdcfi YbĚa 'g'•gla 'i j]Yg 'U'dfĚ_'UX"

---CXgUni 'H'c'&a YXnYfm_UyX 'c[]W_ '•gY_'dfc[fUa i '

DfĚ_`UX%(!%CXgUXrcj Ub]Y'c'&a YXnYfm

```
1
2 if ($a == $b) {
3     //vetva cislo 1
4     echo "A je rovne B";
5 } //end vetva 1
6 else {
7     //vetva 2
8     echo "A je ine ako B";
9 } //endif
```

---BYnUV'XU'H'j_'UXU'dfznXbY'f]UX_nž'nYdyi '^']HUH'bcg'dfc[fUa i '

---I bzfbY'cdYfzcfmibYcXXYi 'H'c'X'cdYfUbXi 'a YXnYfci ''

DfĚ_`UX%(!&'I bzfbY'cdYfzlcfm

```
1
2 $i++;
3 $j = $i -- //zle!!!
4
```

--- Uj z'n'cýYbz'nzlj cf_U'cnbU i '^W'Ve_'Yj ýXnj 'f]UX_i 'gUa U'DcXcVbY'U'i '_cb i '^W'n'cýYbz'nzlj cf_U'i j cXbz'nzlj cf_U'a ' ýY'Vm'gdc'i 'g']Z' Y'gYž'cfzk \]Yž'gk]HWž'fYhi fb'fdcnf] dfĚ_`UX%(!%L

---?UyX 'j fUn'fif]fUXYb]Y'EbU'gUa cglUhb 'f]UXc_'J_b]a_i 'lj cf]U'dfĚ_Unmig'hYgbc'i 'g'j]g'cg ci ''

DfĚ_`UX%(! "H'gbz'g'j]g'cg

```
1
2 $x = GetPositionX; $y = GetPositionY;
3
```

...A Ybz 'cV^Y_hcj ž dfYa Ybb W']Z bWf dŷh' rzgUXbY'a U' a]diga YbUa]fHf dUXbY dfj f'j Y_f Ě'rc 'Y'a c'UcXW ` _UcXbcfa nž Vi XYa 'gU' UY^ gbUy] E' J m' ŷj U'hY' dcXf \cj bĚ " BYdci ŷj U'hY' dcXc Vbf]XYbhZ_zlrcfmU]XYbhZ_zlrcfmc XŷYbf 'Yb j Y_cg ci 'diga U' fnglž gnlž A Ybcža YbcE"

...A Ybz 'cV^Y_hcj 'a i glU'a U' j nbUa ž bUdf " a Ybc 'Ub]Y'a %'5_ 'gU'_i 'dfc[fUa i 'bYg_' f'j fz hŷbYa i gŷh' nU] " S'a]b• hXi a Ubā ž 'c' dfYa Ybbz' I %aZ j 'UgbY' nbUa Ybz " BY \cj cfĚa 'i ŷ' c' dfĚ dUXb W' gdc' i dfUWj bĚ cWž _hcfĚa U' • 'Wi ' j fUyX] 'df] '• ŷhYbĚ Jz ŷ' c' ŷdU] Yrcj f' c' _Cxi ""

...Hj cfhY'a Ybz fUMcbz bYž dcXU' i f]hf \c' dfYXd] gi ž bUdf.

J]Yk SZ^Yždf]blSZ^Yž; YfSMci fSBUa YfE''

...j m' ŷj U'hY' hj " dfYz] mibUdf '7 Ě' WUggz' C Ě' cV^Wŷ U Ě' Uf]V• lz HĚ' hmlž F Ě' fYWfX: ! dc 'Yž D] dc] bhŷf

6YybY dci ŷj Ub f' j nbUa cj f']XYbhZ_zlrcfm

žž_!]bXYI nž dUfUa YfY' WĚ i ' .

VW'! nbU_m

a žb'! ŷU Y'

Zf'! fYz' bY' g'U'

d'! dc] bhŷf'

g'! fY UnYW'

...BYnUV• XU'hY' bU'_ca Yblz fY'

if

DfĚ Un' if 'AY' ^XYb' n' bU' X' Yy] hY' ŷ' W' dfĚ Uncj ' j ŷYh_ W' dfc[fUa cj U' W' W' 'U' nm' cj ž j fz hLbY' D<D' 'I a cŷbi 'AY' j m' cbzj U' • gY_ _Cxi ' j ' nzej]g' cgh' c' X' gd' bYb] U' dcXa]Yb_m' GnbH] 'AY' fcj bU_z' U_c' 'j 'U' nm' i '7''

DfĚ `UX%!(("ŷlfi _h fUdfĚ Un']Z

```
1
2 if (výrazl)
3     příkazl
4
```

5_ 'AY' j fUn' j fUr%j m' cXbchYb 'U_c' dfUj Xj ' fHfI 9Ě' D<D' j m' cbz' dfĚ Un' dfĚ Un' %'5_ 'AY' j fUn' m' cXbchYb 'U_c' bYdfUj Xj ' fi 5@G9Ě' D<D' Vi XY' dfĚ Un' %']] bcfcj U' !' dfYg_c' f' \c''

B Ug' YXi ^• WdfĚ Un' j ndŷY' U' 'AY' j } ŷ] Y' U_c' V' U_ 'AY' dfYa Ybbz ' U' j } ŷ] U' U_c' dfYa Ybbz ' V''

DfĚ `UX%(!) ">YXbcXi W']Z

```
1
2 if ($a > $b)
3     print "a je vä šie ako b";
4
```

J'df#dUXYZyYWWHy'j'nzjlg'cgh'cX'gd'bYb]U'dcXa]Yb_mj_mcbU`b]Y'Yb'^XYbzUYj]UWdf#_Uncj ži nUj f]hY]W'Xc'df#_Uncj f\c'Vc_i.'

Df#_UX%(!*"=ZgVc_ca

```
1
2 if ($a > $b) {
3     print "a je vä šie ako b";
4     $b = $a;
5 }
6
```

Df#_Un]Za'jYVm'U^g• Ug ci]b^c]Zi''

else

UghY'Yj'gUj yU`gfYzj Ua Y'gc'gli zWci`U`df]gd'bYb#dcXa]Yb_midcYfYi ^Ya Yj_mcbU`]bbcg`5`U'df]bYgd'bYb#]bbcg`6`BUhc`g•y]j VcfbY`df#_Un`YgY`6`c`nUYgY'gUj_mcbz`j hYXn#U`dcXa]Yb_Uj`dfj Y^`Ugh]df#_Uni`#Z#b]Y^Y'gd'bYbz`ft 5@G9L''''

Df#_UX%(!+"]ZYgY

```
1
2 if ($a > $b) {
3     print "a je vacsie ako b";
4 } else {
5     print "a je mensie alebo rovne b";
6 }
7
```

elseif

Hzlc`cbyhfi`WUcd} `fcny]fi ^Ya cybcgh]df#_Uni`IZ`Df#_Uni`j YXYb`nU`YgY]ZgUj_mcbz#U`b]Y^Y'gd'bYbz`dcXa]Yb_U'dfY]ZU`nzfcj Y`^Y'gd'bYbz`dcXa]Yb_UnU`YgY]Z` Ug`YgY]Za`jY'a Y'dci`y]`U^j]UWfzh`Df#_Un`YgY'gUj_mcbz`Yb`j hYXn#U`b]Y^Y'gd'bYbz`y]UXbU'dcXa]Yb_U`YgY]Z

A`jY'a Y'dci`y]j U`U^ncyYb`f`df#_Unn#`]i`y'dca`cWi`ncyYb`W`nzlj`cf]Y`UYVc`Xj`c^VcX`mU'df#_Uni`YbX]Z

Df#_UX%(!, "=ZYgY]ZYgY

```

1
2 if ($a > $b) {
3     print "a je vacsie ako b";
4 } elseif ($a == $b) {
5     print "a je rovneb";
6 } else {
7     print "a je mensie ako b";
8 }
9

```

Alternatívna syntax pre riadiace príkazy

```

D<D'dcb•_U'U'YfbU'ij bi 'gnbHU 'dfY'f[U'X]U'W'df'U'UmU_c'ifZ'whileZ'forZ'U'switch"J'rz_'UXY'^Y'lc'rza YbU•j cXbY^n'cyYbY^n'zlj cf_mio'nU'Xj c^VcX_i'
fifU'_cbW'j Y^n'cyYbY^n'zlj cf_miq'nU'endif;Z'endwhile;Z'endfor;Z'UYVc'endswitch;Z'!'dcXU'lc\cZ'U•'_cbY'fi_'W' 'dci y'j U'Y'"5'h'fbU'ij bU'gnbHU'
'^j 'D<D'Yb'n\]grcf]W' W'X'j cXc'z'j 'Vi X•W'cgh]bY'Vi XY' UY^dcXdcfcj Ubz"

```

```

Df'U'X%'!-'5_'h'fbU'ij bU'gnbHU '!Vc_

```

```

1
2 <?php if ($a == 5): ?>
3     A je rovné 5-tim
4 <?php endif; ?>
5

```

```

J'dfYX'cy'ca 'df'U'X'Z'<HA@Vc_'5'1')'^Y'j'cyYb' j'c'j'b'h'f'df'U'ni 'if'bU'd'ig'Ub'f'c'j 'U'h'fbU'ij bY'^gnbHU'|"<HA@Vc_'Vi XY'j'nd'ig'Ub' 'Yb'j'df'd'UX'Z'
y'Y'~'U'g'U'fcj'bz' 'g'i')'"

```

```

DcXcVbY'^Y'lc'U'df]dci y]h'Y'g'Y'U'Y'g'Y'Z'

```

```

Df'U'X%'!%'5_'h'fbU'ij bU'gnbHU 'Z'Y'g'Y'Z'Y'g'Y'

```

```

1
2 if ($a == 5):
3     print "a je rovné 5";
4     print "...";
5 elseif ($a == 6):
6     print "a je rovné 6";
7     print "!!!";
8 else:
9     print "a nie je ani 5 ani 6";
10 endif;
11

```

k\jY

```

while 'Y'bU'^Y'X'bcXi W'y'W'i gj 'D<D'Gdfzj U'g'U'fcj bU_c'U_c'k\jY'j 'U'm'i '7'"

```

Dfġ_UX%(!%@"GnbHU`dfġ_Uri`k\]Y

```
1
2 while (výraz) príkaz
3
```

HYbhc`jHfU`b`dfġ_Uri`hYgh`^Y`dcXa`jYb_mWġ`i`Yyh`dfYX`dfYWcXca`Wġ`i`ž`c`nbUa`Ybz`jY`Wġ`i`g`bYa`i`g`dfYVY`b`Ub`fUn`Dfġ_Uri`k\]Y`dci`jġ`Ua`Yž`U`nzj`gġ`i`_cb`cj`UWU`dcXa`jYb_U`bU`bY`U`ca`dfġ_Uri`j`hY`Y`Wġ`i`"NUXUb`Wġ`i`g`g`U`hYXU`dfYj`zXnU`Yb`j`hX`Xnž`U`^Y`gd`bYbz`dcXa`jYb_U`bUnU`jUġ`i`ž`dfYhc`gUa`i`U`^`cj`cfġ`Wġ`i`g`g`dcXa`jYb_ci`bUnU`jUġ`i`"

Dfġ]hca`hc`dfġ_Uri`a`^`jYa`Y`dci`jġ`U`^`U`hYfbUġj`bi`gnbHU`.

Dfġ_UX%(!%@"5`hYfbUġj`bU`gnbHU`dfġ_Uri`k\]Y

```
1
2 while (expr): statement ... endwhile;
3
```

J`dlg`ġY`cX%Xc`%\$.`

Dfġ_UX%(!%@"7m`i`g`g`dcXa`jYb_ci`bUnU`jUġ`i`

```
1
2 /* Príklad 1 */
3
4 $i = 1;
5 while ($i <= 10) {
6     print $i++; /* vypis cisla $i
7                 pred jeho inkrementaciou, tzv.
8                 post-inkrementacia */
9 }
10
11 /* Príklad 2 */
12
13 $i = 1;
14 while ($i <= 10):
15     print $i;
16     $i++;
17 endwhile;
18
```

do..while

HYbhc`dfġ_Uri`^Y`Y`_j`j`UYbhDUg`U`cj`g`_f`c`F9D95HI`BH`@"`DcXa`jYb_U`gU`h`hYgh`^Y`Uy`dc`dfYWcXY`Wġ`ca`ž`hYXU`Wġ`i`g`dfYVY`bY`bU`a`YbY`^fUn`U`^`cj`cfġ]`U`gUa`i`Wġ`i`g`g`dcXa`jYb_ci`bU`_cbWġ`

>YX]bz`a`cYbz`gnbHU`Wġ`i`do..while"

Dfġ UX%(!% "7m i g'g'dcXa]b_ci bU_cbW

```
1
2 $i = 0;
3 do {
4     print $i;
5 } while ($i>0);
6
```

? 'dfġ Uni **Xc!k** \]YbYl |ghi ^YUhfbUhg bU'gnbHU "Dcnf°AYXn]DUGWca U'D<D^Y'dcXgHb 'fcnXY'j c'j n'cXbcWj Ub†nzj YfY bY^dcXa]Yb_ni'DUGW' cd•y UWh i g'df]gd'bYb†nzj YfY bY^dcXa]Yb_nz'D'dfzj Y'bUcdU_ždf]^Y^bYgd'bYb†.....

Xc'
·ŽŽ·'
k\]Yf]O%\$\$E/

Dc_]U **Xc!k** \]YcVgUi ^Yn'cyYb j fUž^Yj\cXbf'digU 'dcXa]Yb_i **k** \]YnUi nUj zfUWi 'n'cyYbci 'nzlj cf_ci 'Íqġ' 'n'cyYbf\c'dfġ Uni "

NbUW^UmU7'a 'yi 'dci y] U^fcnXYbYdci y]hY^Wh i 'do..whilež_hcf'f i a cybi ^YnUghj] j m'cbzj Ub]Y^Wh i j 'ghfYXY^Vc_i 'dfġ Uncj 'dca cWi ' do..whilefSŁUdci y]h' 'dfġ Uni [VfYU](#) "J]UWUg]bUdcj]Y'dfġ UX'

Dfġ UX%(!% "DfYfi yYb]Y^Wh i

```
1
2 do {
3     if ($i < 5) {
4         print "i nijeje dost vela";
5         break;
6     }
7     $i *= $factor;
8     if ($i < $minimum_limit) {
9         break;
10    }
11    print "i je ok";
12
13    ...spracuj i...
14
15 } while(0);
16
```

for

>Y'dfġ Un^Wh i ž_hcf 'dci y]^Ya Yj 'dfġdUXYžyY^YdfYXca 'nbza midc YhdfYWcXcj 'Wh `ca ">Y^c'gnbHU ^Y'bUg^YXcj bz. '

Dfġ UX%(!% "GnbHU Wh i g'dYj b a 'dc lca]hFzVf! Zcf

```
1
2 for (vyraz1; vyraz2; vyraz3) prikaz
3
```

j fUn%Yj mčXbchYb `dfYXnU]Uh_ca `dfYj zXnUb]U`Wh`i`"Dclca `^Yj mčXbchYb `j fUn&`5^`Yj fzHbf`FI 9ždfYj zXnUgU`h`c`Wh`i`**dfi_Ui`BU`_cbW_UyXf`c`dfYWcXmWh`ca`gUj mčXbchj`fUn`ž`c`gUXY`Y`HU`X`cž`dc`JU`a`z`j fUn&`\cXbch`FI 9"CVj m`Y`gUj fUn%`dei`ýj`U`b`U`]b]WU]nzWj`f]UX]UW`^`dfYa`YbbY`^`Wh`i`ž`j fUn&`Y`dcXa`]Yb_U`dfYj zXnUb]U`Wh`i`U`j`fUn`g`·`ý`b`U`dfUj`]X`Y`b`·`U`_`h`U`]nzWj`f]UX]UW`^`dfYa`YbbY`^`Wh`i`"**

?UyX`j`fUn`#/%&&`#`a`'`ýY`Vm`dfzn`Xbm`"

J`dlg`gY`cX`%Xc`%\$.`

Dfi`UX`%`(!`%`"7m`i`g`žf`

```
1
2 /* Příklad 1 */
3
4 for ($i = 1; $i <= 10; $i++) {
5     print $i;
6 }
7
8 /* Příklad 2 */
9
10 for ($i = 1;;$i++) {
11     if ($i > 10) {
12         break;
13     }
14     print $i;
15 }
16
17 /* Příklad 3 */
18
19 $i = 1;
20 for (;;) {
21     if ($i > 10) {
22         break;
23     }
24     print $i;
25     $i++;
26 }
27
28 /* Příklad 4 */
29
30 for ($i = 1; $i <= 10; print $i, $i++) ;
31
```

D<D`hY`i`a`c`y`b`i`Y`d`c`i`ý`]`U`h`f`b`U`h`j`b`i`g`n`b`U`.

Dfj `UX%(!% "5HfbUhf bUgnbHU Wn`i Zcf

```
1
2 for (expr1; expr2; expr3): statement; ...; endfor;
3
```

foreach

DcD(fDcD `b]L'nU U_cbyłfi `Wj `foreachZdcXcVbYU_c`dYf`U]bf`Um mI a cybi `Y`YXbcXi Wc`cVgi \cj U `Wf`dc`JU`Az`Xj Y`gnbHU YZU`_Y `Xfi \z`Y`Yb`j YXUYa `fcryfYb`a `dfj Y^`

Dfj `UX%(!% "GnbHU : cfYUW

```
1
2 foreach(pole as $value) prikaz
3 foreach(pole as $kluc => $hodnota) prikaz
4
```

Dfj `f]UXc_`XYZbi `Y`Wn`i gj `dc`]`dc`Y`Dc Ug_`UyXf`c`Wn`i `Y`U`hi z`bYa i `dfj`_i `dc`U`df]fUXYbz`c`XbcHU`j`Ui`Y`U`]bXYl`U`hi z`b`Y`c`dfj`_i `dc`U`Y`nj`zy`Yb`c`YXYb`"8fi \ `f]UXc_`fcVf`ic`]ghfz`g`h`a`fcnXY`ca`zy`Y`U`hi z`b`Ya`i`_`•`i`dfj`_i `dc`U`Vi`XY`df]fUXYbz`dfYa`Ybbz`~`c`XbcHU`dc`Ug_`UyXf`c`df]YVY`i`Wn`i`"

Df]`dfj`ca`j`c`Ub`f`Z`b`Wj`Z`cfYUW`Y`]bXYl`dc`U`Ui`hca`U`h]W`mb`U`g`U`j`Yb`b`U`Y`c`dfj`dfj`c`z`hU`y`Y`j`c`Ub`]Y`fY`g`Y`fL`Y`n`V`m`c`b`f`"

H]Yr`Xj`Y`_`cbyłfi`_`Wj`g`h`XU`•`d`b`Y`fcj`bU`f`"

Dfj `UX%(!&S"?cbyłfi `WjU: cfYUW`%

```
1
2 reset ($arr);
3 while (list(, $value) = each ($arr)) {
4     echo "Hodnota: $value<br>\n";
5 }
6
7 foreach ($arr as $value) {
8     echo "Hodnota: $value<br>\n";
9 }
10
```

DcXcVbYU`h]Yr.

Dfj `UX%(!&%"?cbyłfi `WjU: cfYUW`&

```

1
2 reset ($arr);
3 while (list($key, $value) = each ($arr)) {
4     echo "Kluc: $key; Hodnota: $value<br>\n";
5 }
6
7 foreach ($arr as $key => $value) {
8     echo "Kluc: $key; Hodnota: $value<br>\n";
9 }
10

```

DfYXYa cbyfzWl dci ylhU'bugYXi ^· UyY'dfL UXm'

DfL UX%(!&&)?cbylfi_VJU: cfYUW"

```

1
2 /* foreach Příklad 1: value only */
3
4 $a = array (1, 2, 3, 17);
5
6 foreach ($a as $v) {
7     print "Current value of \$a: $v.\n";
8 }
9
10 /* foreach Příklad 2: value (with key printed for illustration) */
11
12 $a = array (1, 2, 3, 17);
13
14 $i = 0; /* for illustrative purposes only */
15
16 foreach($a as $v) {
17     print "\$a[$i] => $k.\n";
18 }
19
20 /* foreach Příklad 3: key and value */
21
22 $a = array (
23     "one" => 1,
24     "two" => 2,
25     "three" => 3,
26     "seventeen" => 17
27 );
28
29 foreach($a as $k => $v) {
30     print "\$a[$k] => $v.\n";
31 }
32

```

break

VFYU_ i a cýbi ^Yc_Ua ý]hf'dfYfi ýYb]Y'dfYj zXnUb]Uýfhi _h_fm]ZZc_fzk \]YUYVc'gk]HW''

VFYU_ a z'bYdcj]bb `bi a Yf]W `Uf[i a Yblž_lrf `i Xzj Už'n_c_ W'nUd•nXFYb W`Wn`cj `UYVc'jb W`ýfhi _h`f'a z`j`ng_c]''

Df_ UX%(!& "6fYU_j `dfU]

```
1
2 $i = 0;
3 while ($i < 10) {
4     if ($arr[$i] == "stop") {
5         break; /* mozem napisat aj 'break 1;'. */
6     }
7     $i++;
8 }
9
10 /* Pouzitie volitelneho parametru o kolko urovni vyskocit. */
11
12 $i = 0;
13 while ( ++$i ) {
14     switch ( $i ) {
15         case 5:
16             echo "At 5<br>\n";
17             break 1; /* Ukonci len prikaz switch. */
18         case 10:
19             echo "Pri 10; koncim>\n";
20             break 2; /* Ukonci switch aj while. */
21         default:
22             break;
23     }
24 }
25
```

continue

Wbh]bi Yc_Ua ý]hf'dfYg_c ‡ Uý]Y'df_ UmmWn`i `UnU bY'dfYj zXnU` Uý]i]hYfzW] `Wn`i''

Wbh]bi Y'a z'bYdcj]bb `gYb `Uf[i a Yblž_lrf `i Xzj Už'_c_c`Wn`cj `gU'a z'dfYg_c]''

Df_ UX%(!& "7cb]bi Yj `dfU]

```

1
2 while (list ($key, $value) = each ($arr)) {
3     if (!(($key % 2)) { // preskoc parne clený
4         continue;
5     }
6     do_something_odd ($value);
7 }
8
9 $i = 0;
10 while ($i++ < 5) {
11     echo "Vonkajsi<br>\n";
12     while (1) {
13         echo " Stredny<br>\n";
14         while (1) {
15             echo " Vnutorny<br>\n";
16             continue 3;
17         }
18         echo "Toto sa nikdy nevyipse.<br>\n";
19     }
20     echo "Neither does this.<br>\n";
21 }
22

```

switch

J`df`dUXYZyY`a za Yj`JUWdcXa`|Yb_cj` W`j`YhYj`ž`cd`Un`gU`dci`y`j`U`df`_`Un`**gk`|HW`**"`>Y`c`gnbHL`^Y`bUg`YXcj`bz`.

gk`|HW`fj` fUn`%L`

o`

.....**WgY`<`CSBCH5`5`:**

.....**df`_`Un5`%`**

.....**df`_`Un5`&`**

.....**VFYU`/`**

.....**WgY`<`CSBCH5`6`:**

.....**df`_`Un6`%`**

.....**df`_`Un6`&`**

.....**VFYU`/`**

.....**XYZi`h`**

.....**df`_`UnLLL`%`**

.....**VFYU`/`**

.....**XYZi`h`**

.....**df`_`UnLLL`%`**

q`

5_c`lc`Z`b`|`i`^Y3`BU`dfj`gUj`n`cXbch`**fUn`%U`dclra`g`dcg`i`dbY`dfY`Wz`Xn`Ubf`^`cXbch`minU`WgY`Z`Uy`_`a`gU`bYbz`^XY`^`cXbch`L`Z`_`hcfz`gU`fcj`bz`**

j` fUn`i`%`Bzg`YXbY`gUj`m`cbzj`U`^`df`_`Unz`Uy`_`a`gU`bYbU`Un`bU`df`_`Un`VFYU`_`UYVc`_`cb`|Y`Wdf`_`Un`gk`|HW`**"`I`dncf`i`^Ya`bU`lc`ž`yY`gU`gdf`UW`j`zj`U`^`**

j`y`Yh`mdf`_`Un`m`fU`^`nU`WgY`Z`dc`_`JU`gU`bYbU`Un`bU`VFYU`E`"`Ug`XYZi`h`**gUj`m`cbz`j`h`Xnz`U`_`Ub`|^`XbU`^`cXbchU`gU`bYfcj`bz`**j` fUn`i`%`**`Ug`**XYZi`h`**^`bYdcj`|bbz`"**

Df`_`UX`%(`!`&`)"`?`Ug`z`Xcj`|ZU`^`Y`c`bU`fUXb`|Y`Wndf`_`Un`gk`|HW`****

```

1
2 if ($i == 0) {
3     print "i je rovne 0";
4 }
5 if ($i == 1) {
6     print "i je rovne 1";
7 }
8 if ($i == 2) {
9     print "i je rovne 2";
10 }
11
12 switch ($i) {
13     case 0:
14         print "i je rovne 0";
15         break;
16     case 1:
17         print "i je rovne 1";
18         break;
19     case 2:
20         print "i je rovne 2";
21         break;
22 }
23

```

require()

```
DfU`Un`fYei jfYHLXcd`b#a jYgr`gYU`cVgU`nUXbf`c`g`Vcfi ždcXcVbY`U_c`j`^Um_i`7`dfU`Un`#include"
```

```
BYnUVi Xb]hž`yY`g`VcfmgdfUWj`zj`Ubf`dfU`Un`ca`j`bW`XYL`UYVc`fYei jfYHL`g`gdfUWj`zj`Ubf`U_c`D<D`Xc_i`a`Yblž`c`nbUa`Ybzž`yY`Ugh`c`fUj`Ybf`d`Ub`a`j`D<D`yU`h`g`d`hU`ca`g`gdfUWj`Ubf`U_c`D<D`g`f`dhž`cg`Uc`_`U_c`<HA@Xc_i`a`Ybl`D<D`Ug`a`i`g`nU`bU`U`_cb`j`d`Ub`a`D<D`yU`h`g`d`hU`ca`
```

```
Hžlc`fYei jfYHL`bYj`fUMU`y]UXbi`c`Xbch`"
```

```
BU`fenX]Y`c`X`j`bW`XYL`ž`fYei jfYHL`j`yXm`fU`W`Y`cj`g`Vcfž`U`^`Y`g`U`df`g`i`yb`f]UXc`_`C`X`j`c`JU`y`ca`g`f`dh`b`l`XmbYj`m`cbzj`U`D`fY`dc`Xa`j`Yb`Ybf`j`bW`Xc`j`U`b`Y`g`Vcfi`dci`y]h`fUX`y`^`j`bW`XYL`"
```

```
DcXcVbYž`W`h`m`hU`l`g`tr`b`Y`ej`d`n`j`i`^`g`dfz`j`U`b`Y`fYei jfYHL`"5`_`Y`dfU`Un`fYei jfYHL`g`Ug`W`h`i`ž`j`bW`Xc`j`U`b`Y`g`Vcfi`g`U`j`m`cbz`Y`b`f`U`h`"
```

```
5`_`W`W`h`j`bW`Xc`j`U`f`n`b`Y`g`Vcfm`j`W`h`Y`ž`dci`y]h`j`bW`XYL`"
```

```
DfU`UX`%`!`&`"N`j`c`Ub`Y`\`U`j`]`_`m`
```

```

1
2 require ('header.inc');
3

```

```
BYnUVi Xb]hž`yY`j`bW`XYL`U`fYei jfYHL`ng`U`c`VgU`g`Vcfi`j`Ugh`bci`W`g`tr`W`n`c`z`bnig`Vcfcj`g`ng`h`a`ž`b`Y`dca`c`Wi`"<HD`"
```

Df1_UX%(!&-"Df]dc^Yb]Y'g Vcfi

```
1
2 require ("file.php?varone=1&vartwo=2"); /* nepracuje. */
3
4 $varone = 1;
5 $vartwo = 2;
6 require ("file.php"); /* $varone a $vartwo budú k dispozícii v file.php */
7
```

15. Funkcie

Užívate sky definované funkcie

: i b_WY'g•y]U'bu'n^YXbcXi yYb]Y'buY]W'dfc[fUa cj "J'nzi ^a Y'g_fzhb]U'U'gdY\ UXbYb]U_ÖXi 'XY'ja Y'Vc_mi_ÖXi 'Xc'^YXbcXi W'ý]W' Ughž'_lrcf'byg•'bzncl 'dcXU'Z b_WY'_lrcf' j m_cbjz U'•"H]Yrc'dfc[fUa cj f'Vc_mij c'za Y'dfcWX•fmiUYVc 'Z b_WY" Bzncl 'dfcWX•fmiUYVc' Z b_WY'Vmia U'j ghYbY'dcd]gcj U 'lrcž' c'Z b_WU'j m_cbjz U": i b_WY'a ' ýYa Y'j c'U 'g'j]UWf' a]j ghi db a]'dUfUa YhUa]ž'Z b_WU'j fUWU' ^YXbi 'bzj fUrcj •'\cXbchi "Df1_UXca 'a ' ýY'Vm'Z b_WU'dfY'g #]U'Y'Xj cW' #gYž'_lrcf'z j fUWU'j 'g'YXc_.'

Df1_UX%(!%G]Hb]Y'Xj cW VgY'

```
1
2 function scitaj ($scitanec_1, $scitanec_2) {
3     $vysledok = $scitanec_1 + $scitanec_2;
4     return $vysledok;
5 }
6
7 //priklad pouzitia
8 $aritmetika = scitaj(5,5);
9 echo "Vysledok je".$aritmetika;
10 //skratene
11 echo "Skrateny vysledok je".scitaj(5,5);
```

DUhb '_ÖX'a i g]Vm'hY'ca 'Z b_WYž'dcXcVbY'U_c'df]j]b W'Z b_Wž'W'U'YVc'hf]YXUW"Hy'c'Z b_WY'nU #BU'U'_cb #Vc_cj a]'cdYfz]lrcfa]'ö' U'q"

Argumenty funkcií

=bZ'fa zWY'dfY'Z b_W] 'a ' ýi 'Vm'XcXU'f'U_c'ncrbUa 'Uf[i a Yb]rcj ž'_lrcf ' ^Y'j UghbY'ncrbUa ca 'dfYa Ybb W'UYVc'_cbY]z]bhcXXY'Yb ']Uf_Ua]"

D<D'dcXdcfi ^Y'j c'Ub]Y'Uf[i a Yb]rcj '\cXbchci 'fla d']WbY]ž'j c'Ub]YScX_U'ca ž'U'ja d']Wb]f'\cXbch]SUf[i a Yb]rcj "NcnbUa ' Uf[i a Yb]rcj 'g'dfYa Yb'lj ci 'X'ý'_ci 'Y'dcXdcfcj Ub 'Yb'j 'D<D'('11'"DfY'j]UW]bZ'fa zW]d'cnf]'ncrbUa ' Uf[i a Yb]rcj SgSdfYa Yb'lj ci SX'ý'_ci 'U'dcd]g'Z b_W]ž'Z bWSbi a SUf[gflž'Z bWS[Y]SUf[fl'U'Z bWS[Y]SUf[gfl' Fcj bU_ 'YZ_hi ' a ' ýYa Y'Xc]U'bi 'U'j 'D<D' 'dfYXU'ba 'dc U'U_c'Uf[i a Ybi "'

Definícia funkcie

```
1
2 function vezme_pole($vstup) {
3     echo "$vstup[0] + $vstup[1] = ", $vstup[0]+$vstup[1];
4 }
5
6 $vstup = array ('jano','Fero');
7 vezme_pole ($vstup);
```

Predávanie argumentov odkazom

Príklad: Funkcia vezme_pole() prijíma argumenty odkazom. V programe sa vytvorí pole \$vstup a funkcia vezme_pole() ho prijíma odkazom. Funkcia vezme_pole() vypíše obsah pole \$vstup.

Definícia funkcie

```
1
2 function pridaj(&$string) {
3     $string .= 'a nie o extra';
4 }
5 $str = 'Toto je reazec ';
6 pridaj($str);
7 echo $str; // vypíše 'Toto je reazec a nie o extra'
8
```

Príklad: Funkcia pridaj() prijíma argument odkazom. V programe sa vytvorí string \$str a funkcia pridaj() ho prijíma odkazom. Funkcia pridaj() pridá k stringu \$str text 'a nie o extra'.

Definícia funkcie

```
1
2 function foo ($bar) {
3     $bar .= ' a nie o extra.';
4 }
5 $str = 'Toto je reazec, ';
6 foo ($str);
7 echo $str; // vypíše 'Toto je reazec'
8 foo (&$str);
9 echo $str; // vypíše 'Toto je reazec a nie o extra'
10
```

Implicitné hodnoty argumentov

Príklad: Funkcia foo() prijíma argument odkazom. V programe sa vytvorí string \$str a funkcia foo() ho prijíma odkazom. Funkcia foo() pridá k stringu \$str text ' a nie o extra.'.

```
Df: `UX%!) ": i b_VU?Uj i 'g]a d`Mhna `Uf i a Ybka
```

```
1
2 function urobKavu ($type = "cappucino") {
3     return "Urob salku kavy $type.\n";
4 }
5 echo urobKavu ();
6 echo urobKavu ("espresso");
7
```

J gli d`Vi XY`bUg`YXi ^W

```
Urob salku kavy cappucino.
Urob salku kavy espresso.
```

```
=a d`Mbz `cXbchU`a i g`Vm`_cb`yHbH`L`bYa `y`Y`lc`Vm`dfYa Ybbz `UYVc` `Yb`hf`YXm`NbUa Ybz `rc`z`y`j `h`Y`XYZ`b`W`Z`b`_`V`gU`]a`d`Mbz`
`cXbchU`a `y`Y`XYZ`bcj`U` `Yb`fUn`"BYnLVi Xb]H`Z`y`Y]a`d`Mbz`f`Uf`i`a`Ybha` `ji` `Vm`nL`UX`Yb`f`U`y`nU`" `Ug`W`a`]` `Uf`i`a`Ybha`]Z`
H`X`U`j`y`X`nj` `dfU`c`j` `ncrbUa`YUf`i`a`Ybhcj`"BUg`YXi`^W`df: `UX`b`YVi`XY`dfYc`Z`b[`cj`U`"
```

```
Df: `UX%)!*"7^nVbni]a d`MhniUf i a Ybh
```

```
1
2 function urobJogurt ($type = "probio", $prichut) {
3     return "Urob pohar jogurtu typu $type $flavour.\n";
4 }
5
6 echo urobJogurt ("jahoda"); // nefunguje
7
```

Jndi`y`

```
Warning: Missing argument 2 in call to urobJogurt() in
xxx.php on line 6
Urob pohar jogurtu typu probio jahoda
```

5`H`_`lc`^`Y`lc`gdfzj`bY`.

```
Df: `UX%)!*"+Gdfzj bni]a d`Mhb `Uf i a Ybh
```



```

1
2 function urobJogurt ($prichut, $type = "probio") {
3     return "Urob pohar jogurtu $type $flavour.\n";
4 }
5
6 echo urobJogurt ("jahoda"); // funguje
7

```

J g h i d .

```
Urob pohar jogurtu probio jahoda.
```

Návratové hodnoty

Bzj fUrcj z \cXbchU'Z b_VW^Y|b|WU]ncj Ubz'bYdcj |bb a 'dfi_Unc a 'fYh fb"JfzhYb 'a 'yYVm\cW_ 'mdžj fzHbY'ncnbUa i ']cVY_hi "

Dfi_UX%) !, "Bzj fUrcj z \cXbchU

```

1
2 function mocnina ($num) {
3     return $num * $num;
4 }
5 echo mocnina (4); // vypíše '16'.
6

```

5^_Y 'j 'D<D'bYa 'yYh'ng_U 'j]UWdfYa Ybb W'n'Z b_VW^YXbch|j cZUY'a 'yYh']W'j fzH 'dca cWi 'dc U'

Dfi_UX%) !- "]UWbzj fUrcj W \cXb' h

```

1
2 function male_cisla() {
3     return array (0, 1, 2);
4 }
5 list ($nula, $jedna, $dve) = male_cisla();
6

```

Funkcie premenných

D<D'dcXdcfi ^YU^'bzj f \Z b_VW^dfYa Ybb W"NbUa Ybz 'rcžyY'bzncj 'dfYa YbbY^Y'dci y|h 'U_c'Z b_ bf'j c'Ub]Y'Z b_VW'

Dfj `UX%!%\$": i b_VjUdfYa YbbY^

```
1
2 <?php
3 function foo() {
4     echo "Vo funkcii foo()<br>\n";
5 }
6
7 function bar( $arg = '' ) {
8     echo "Vo funkcii bar(); argument bol '$arg'.<br>\n";
9 }
10
11 $func = 'foo';
12 $func();
13 $func = 'bar';
14 $func( 'test' );
15 ?>
16
```

16. Triedy a objekty

Dfj fyYbWCCDfcV^Y_hcj c'cf]Ybrcj Ubfa'c'dfc[fUa cj Ub]UL:gUXchfUn'i f]hY`Yb'dci ga]Yj U]'UnUVzj U]'gU'bUX'h a]lc`RdfnYa bcg Ua]i'"
Aza`hi`j`yU`U^b]Y`c`dfY`b]W">Unm`D<D'df]bzýU'a`cýbcg`XYZb]MUdfYa`Ybb`W`O1`]b]MU]nU`bz`^`cXbchU'Q/'
fUY`U^bYa`i`g]L`U`Z`b`Vj`fa`Yb`Z`_`hcf`f`g`'bUX`XUb`a`]`Xz`h`c`j`a`]`ýfi`_`h`fUa`]`XYZ`bcj`Ub`f`"=býhUbVjU`h`f]YXmj`dfc[fUa`Y`gU`bUn`j`U`
cV^Y`h`CV^Y`h`Y`hXU`Zm"ýfi`_`h`fUj`dUa`}`h`dc`]h`U`Už`df]`ca`]`f]YXU`Y`Y`b`U`_`g]`dfYXd]gž`U`c`cV^Y`h`j`nj`cf]`"Dca`cWi`]`f]YX`U`cV^Y`h`cj`
Xcg]U`bYa`Yj`}`ýli`]`g]h`i`U`VYndY`bcg`dfc[fUa`i`ž`bU`c`_`c`h`j`nWzXnU`n`cV^Y`h`cj`c'cf]Ybrcj`Ubfa'c'dfc[fUa`cj`Ub]U`U`^`c`hfcW`
nz`_`UXb`W`j`Ug]bcg]h`.

...XYX] bcg]h`

...dc`na`cf]Zna`i`

...nUd`nXfYbcg]h`"

Hf]YXU`^Y`g`^`fb`dfYa`Ybb`W`U`Z`b`Vj`Z`_`hcf`f`g`'h`a`]lc`dfYa`Ybb`a`]`dfUW`^`"Hf]YXi`XYZ]bi`^Ya`Y`dca`cWi`]`bUg`YXi`^`W`^`gnb]U`Y`.

WUgg`a`YbcShf]YXni`

o`

...XYZb]MUdfYa`Ybb`W`O1`]b]MU]nU`bz`^`cXbchU'Q/'

...XYZb]MUZ`b`Vj`:/`

q`

Hf]YXU`^Y`g`^`fb`dfYa`Ybb`W`U`Z`b`Vj`Z`_`hcf`f`g`'h`a`]lc`dfYa`Ybb`a`]`dfUW`^`"Hf]YXi`XYZ]bi`^Ya`Y`dca`cWi`]`bUg`YXi`^`W`^`gnb]U`Y`.

Dfj `UX%!%\$!"SYZ]b]MUh]YXng`&a`YlcXUa`]

```

1
2 <?php
3 class Kosik {
4     var $polozky; // polozky v nakupnom kosiku
5
6     // pridaj $pocet poloziek tovaru $cislo_vyrobu do kosika
7
8     function pridaj_do_kosika ($cislo_vyrobu, $pocet) {
9         $this->polozky[$cislo_vyrobu] += $pocet;
10    }
11
12    // zober $pocet kusov tovaru $cislo_vyrobu z kosika
13
14    function vyber_z_kosika ($cislo_vyrobu, $pocet) {
15        if ($this->polozky[$cislo_vyrobu] > $pocet) {
16            $this->polozky[$cislo_vyrobu] -= $pocet;
17            return true;
18        } else {
19            return false;
20        }
21    }
22 }
23 ?>
24

```

Hlc XYZbi ^YhfjYXi 'g'bnzj ca '?cgl_ž_hcfz'dcncg'zj Un'UgcWUhfj bY\c'dc U'hcj Ufcj 'U'Xj cW'Z b_Vj! 'bUdfjXzj UbjY'Xc' _cýĹ U'Uj nVYfUb]Y' n'_cýĹ U'

HfjYXmg • hmlnžW' nbUa YbzžnY'U 'WWa Y'j nj cf] 'dfYa Ybb • f]býhUbVj LhfjYXnž a i gja Y'dci ý] 'cdYfzłcf' bYk''''

DfĹ 'UX% !&'Jc`Ub]YhfjYXm

```

1
2 $kosik = new Kosik;
3 $kosik->pridaj_polozku("10", 1);
4

```

Hb] nj cfĹcV'Y_h'~ _cgl_ hfjYXm?cgl_ "Dclca ^YnUj c'Ubz 'Z b_VjUdfjXUSXcS_cgl_UfLdfYj `cýYb]Y'%_i gi 'hcj Ufi ' ĩgc '%S'Xc' _cýĹ U''

HfjYXmia ' ýi 'Vm hfjY'fcýýfYb]Ua]'jb W hfjYX' FcnýfYbz 'UYVc'cXj cXYbz hfjYXU'a z j ýYh_midfYa Ybbf'U'Z b_Vj'd' j cXbY^hfjYXnĹ'>Y'bi hfj' dci ý] ' _ • cj f'g'cj c 'Yl HbXXX' J]UWzgcVbf'XYXb]Y'b]Y'^Y'nUjU 'dcj c Ybfždcj c'Ybf'g' ^Yb'j bcfYbf hfjYXnĹ

DfĹ 'UX% !' "SYZ]b]UhfjYXnĹ dfUj YbnS?cgl_

```

1
2 class Upraveny_Kosik extends Kosik {
3     var $vlastnik;
4
5     function nastav_vlastnika ($meno) {
6         $this->vlastnik = $meno;
7     }
8 }
9

```

Hbhc`dfi`_UXXYZbcj`U`hfjYxi`I`dfUj`YbnS?cgl`_`hcfz`a`z`j`yYh`midfYa`Ybbf`U`Z`b`Wj`hfjYXmi?cgl`d`i`g`XcXUlc`b`dfYa`Ybb`~`j`Ugbl`U`XcXUlc`b`Z`b`Wj`bUgHj`Sj`Ugbl`Ufl`J`nj`cf`hY`dca`Ybcj`Ub`_`cýi`_`Ug|Wci`Wgci`U`a`'yYh`bUgHj`|`U`ng`U`bzncj`j`Ugbl`U`

Dfi`_UX%!(`"Dci`njYhfjYXmi`dfUj`YbnS?cgl`_`

```

1
2 $novy_kosik = new Upraveny_Kosik; // vytvorí pomenovaný košík
3 $novy_kosik->nastav_vlastnika ("kris"); // nastaví vlastníka
4 print $novy_kosik->vlastnik; // vypíše vlastníka
5 $novy_kosik->pridaj_polozku ("10", 1); // (zdedená vlastnos od triedy cart)
6

```

Jc`Z`b`Wj`hfjYXmidfYa`Ybbz`~`h`lg`nbU`f`hBhc`cV`Y`h`Ai`g`hY`dci`y|`~`h`lg|2b|Y`c`dfY`df`gi`d`i`dfYa`Ybb`a`j`c`JUyca`cV`Y`hY`

?cbýfi`_`hcf`^Y`Z`b`WUj`_`hfjYXyZ`_`hcfz`^Y`Ui`hca`U`hWminUj`c`Ubz`df|j`nj`cfYb`f`býh`UbW`cV`Y`h`"I`y`^UXfc`NYbX`%`S`nUj`jYXc`nbza`i`cV`Y`h`j`•`a`YhXi`_`cbýfi`_`hcfz`_`hcfz`^Y`j`c`Ubz`df|j`nj`zfUb`f`cV`Y`h`">Y`^cdU`_`j`yU`_`j`hY`h`c`j`Yfn|`^UXFUW`VU`Z`UY`bcj`z`j`Yfn|UNYbX`&`S`df|bz`y`U`dcXdcfi`^XY`lfi`_`hcfU`Z`c`^Y`a`YhXUj`c`Ubz`df|fi`yYb`f`cV`Y`h`"8Y`lfi`_`hcf`^Y`Ui`hca`U`hWmj`c`Ub`_`df|`nfi`yYb`f`dcg`YXbY`^fYZ`fYbWY`bU`cV`Y`h`J`dfYXWzXnU`W`^j`Yfn|`a`U`_`cbýfi`_`hcf`a`Ybc`XUbY`^hfjYXnzj`^UXFY`&`S`gUj`c`z`SSWb`g`fi`Wfl`DcXcVbY`a`z`XY`lfi`_`hcf`a`Ybc`SSXY`g`fi`Wfl`"

Dfi`_UX%!)`"8YZ|b|WUhfjYXmidfY`NYbX`%`UNYbX`&

```

1
2 class MojaTriedaZend1 {
3     function MojaTriedaZend1() { //stary typ konstruktora
4         print "Konstruktor pre Zend 1.0";
5         $this->meno = "MojaTriedaZend1";
6     }
7 }//Zend 1.0
8
9 class MojaTriedaZend2 {
10     function __construct() {
11         print "Konstruktor\n";
12         $this->meno = 'MojaTriedaZend2';
13     }//nový konstruktore
14     function __destruct() {
15         print 'Zrusim ' . $this->meno . "\n";
16     }//novy deštruktor
17 }//Zend 2.0
18

```

DcXcVbY_U_c'_cbýłfi _łcf'Ub|XYłfi _łcf'byj c'z'ja d'WbY'g c'^fcX| c'j g_ '_cbýłfi _łcf'UYVc'XYłfi _łcf''J'dfłUXYžyY'WWhY'nUj c'U'U' fcX| c'j g_ 'a YłCł žđci ý]hY'_cbýłfi _Vł' j c'JUyca '_CłY.'

...fcX| c'j g_ ScV^Y_h.SSWbgłfi WłL'

UYVc'

...fcX| c'j g_ ScV^Y_hSSXYgłfi WłL'

NybX%'\$'bYdcg_nłi ^Y'ý]UXbi 'a cýbcg 'cXgłfzbYb|U'cV^Y_h ž'bu'_łcf 'Yyh'Yl |głi ^Y'fYZfYbWU''Bc'j cnUj YXYb 'dfł_U'XY'YH'i a cýbi ^Y' b' hYbY'nUj c'U'XYłfi _łcf'cV^Y_h 'U'ij c b| 'cV^Y_hin'dUa }h''FYZfYbWłZ'_łcf'f'cX_Uncj U|'bU'hYbłc'cV^Y_hVi X' bYd'Ułbf'U'dc_i'g'c' dfłgł d'_cV^Y_h 'Vi XY'gdfYj zXnUb '_f]hWci 'WnVci ''

5_'a zHy'i ý]j UHy_g_ 'Z b_ Vł 'XY'YHłZ'Vi XY'ł' 'bi łbf'dfYa Ybcj U ž'bu'_c'_c'łcłc'_ ' c'j'f'g'c'j c'^Y'fYnYf'j c'j Ułbf'dfY' b' hYb'f'j c'U'łY' XYłfi _łcf'U'DfY'na Ybnij 'UXfY'N9B8'&'U'bcj |b_nij 'cV^Y'łc'j ca 'a cXY|'D<D' ('&'U'j nýj]Y'gł'dfY' łU'h'Xc_i a Ybł'NłbX&! 'Nł Ybnij' D<D

17. PHP a Grafika

?b]yb|W; 8'i a cýbi ^Y'j 'gdc'đ dfzW'g'D<D' U'_c'| YbYfcj U'XnbUa |W'f'cVfzn_mUj 'gdc'đ dfzW'g'|b a]'_b]yb|Wła]'U' fUZn'Gd' gcV' dci ý]hU'_b]yb|W; 8'bU'XnbUa |W'f'| YbYfcj U|Y'cfzn_cj ^Y'j Ya]'YXbcXi W'f'

Nz_'Ułbci 'dcXa |Yb'_ci 'dfY'Z b_ 'bcg '_b]yb|W; 8'^Y'^Y^U_hj zWU'df|'_cbZ| i fzW|'D<D'5_'dci ý]j Ua Y'gnghfa 'D<D'<ca Y'ž'ghU 'đdcj c'] ' j 'g'VcfY'd'd"b|'Yl hYbgłcb1 d'dS|'X'X'.

J'g'VcfY'd'd"b|'i dfUj h' Ug 'Yl hYbgłcb' bU

Yl hYbgłcbSX|f'1 ""7.PDfc| fUa :]'YgPD<D'<ca Y'9X|]hcb'&P5dUWY&Pd\ dPYl hYbgłcbg'

''''

/Yl hYbgłcb1 d'dSZZX'

/Yl hYbgłcb1 d'dS]Ydfc'X'

Yl hYbgłcb1 d'dS|'X'X'

J'dfłUXY'fi bY'^_ca d]zWY'^Y'bi łbf'D<D'g'ca d]c'j U' bUdfł'_UX'g'h a |łc'j c'VUa |.

"#WłbZ| i fY'!!k |ł!| X'!!k |ł!HZ'!!gngWłbZ|f1 #YH'!X|gUVY!XYVi ['!!YbUVY!fUW!j Ufg'!!k |ł!dXZ|V1 #_gf#cWł#dXZ|V'!!k |ł!^dY| |X|f'!!k |ł!n]V|X|f'!!YbUVY!| X|bUłj Y!HZ'!!k |ł!hZZ|X|f'!!YbUVY!Zd'!!YbUVY!gcWYfg'!!k |ł!HZ'!!k |ł!ZYfYmłY

fYgdY_hj Y'łc'Wi 'c_fYgUbY.

"#WłbZ| i fY'!!k |ł!| X'!!k |ł!HZ'!!X|gUVY!XYVi ['!!YbUVY!fUW!j Ufg'!!k |ł!^dY| |X|f'!!k |ł!n]V|X|f'!!YbUVY!| X|bUłj Y!HZ'!!k |ł!hZZ|X|f'

DcłfYVb'f'_b]yb|W'^Y'bi łbf'bU'gnghfa 'bU|b]y|U'c'j U' bUdfł'_UX'Wn'dfł_U'Uđh| Yh|bgłU''ObUncj '_b|nb|W2'df| ca |b]y|U'i ^Ya Y'b|Y'Yb' rz_'Ułb' j Yfnł '_b]yb|WžUY'U'^Y'j j c'z'fg_i j Yfnł '_cb |UW'bu'X'j''Bzncj '_b]yb|W'ng'_Ua Y'bu'kkk'XY|U'cf|'j 'gY_V|'DUWU| Ygž Xza Y'U''DUWU| Yg'Dfł'_UX'byłUzWY'_b]yb|W; 8.

```
. UdH [ Yh]bgfU""[M X&
. UdH [ Yh]bgfU""[M X&XYj
```

DfĹ UX%&!%G Vcf'cVfUrc_"d\ d'

```
1
2 <?php
3 Header("Content-type: image/png");
4 $string=implode($argv, " ");
5 $im = ImageCreateFromPng("images/button_pozadie.png");
6 $orange = ImageColorAllocate($im, 220, 210, 60);
7 $px = (imagesx($im)-7.5*strlen($string))/2;
8 ImageString($im,3,$px,9,$string,$orange);
9 ImagePng($im);
10 ImageDestroy($im);
11 ?>
```

?bĹyb]W]; 8 i a cĹybi ^Y[YbYfcj U 'cVfzn_mihndi 'D; ZDB; 'U'ghUfy]Y'j Yfn]Y'_bĹyb]W'U'; = "DcXdcfU'dcgYXbf'c'Zcfa zhi 'Vc'Ui'_cb Ybz' j n\ UXca 'bU'dUH'blcj f'dfcV'fa nZ'^Yj'ŷU'_a cĹybf'_bĹyb]W'ntg_U 'U'g_ca d]cj U 'j 'Ugfb a]'gl'Ua]"

Dci ŷ]hY'dfYXWzXnU'•W\c'dfĹ UXi 'Y'dclca 'j Ya]'^YXbcXi W'fZ'dfĹ UXca 'Y'hj "'XnbUa]W'ni] YbYfcj Ub'f'a Ybi .

DfĹ UX%&!&'Dci ŷ]hYXnbUa]W'ni] YbYfcj Ub'f'c'cVfzn_U

```
<!-- menu -->
<table border="0">
<tr>
<td><a href="auta.html"></a></td>
<td><a href="vlaky.html"></a></td>
<td><a href="lietadla.html"></a></td>
<td><a href="bicykle.html"></a></td>
</tr></table>
<!-- koniec menu -->
```

18. PHP a databázy

DfY'gdfzj i 'XUHVzncj f\c'gmgfja i 'g'•ŷ]U'gdYWU]ncj Ub'f'bzgfc'^Y'J]UW]bZcfa zV]c'fYU b W'U'cV'Y_hcj W'XUHVznUW'^Ya cĹybf'bz'g'j 'df'gi ŷbY'^]hYfU'•fy" 'HU_hYŷ'^Yj \cXbf'fci a]Y 'gdfzj Y'XUHVznmZ'fYgd" dcf]UXbY'gl'dfYŷi Xcj U '_Ud]rc i ' 'g'c'*

J' Uŷ]W'dfĹ UXcW'Vi XY'dfY'gdfzj i '86G'dci ŷ]h 'bzgfc'^d\dAn5Xa]b'U'XUHVznU'AMGE@'

.....J '\ Uj bca 'a Ybi 'j ntj cf]a Y'XUHVzni 'hgh

.....Dc'•gdYŷbca 'j ntj cfYb]XUHVznmhYgh'i 'j nVY]Ya Y'j 'Uj ca 'gY'Y'W'cl YU'_]bYa Y'bU'rz'cĹ_i 'GE@_XY'bU_cd'fi ^Ya Y' Xc'Yi j YXYb 'hM hXc'dc U'Gdi gh 'GE@XcHU#XcHUmBU'XUHVzni 'hghU'_]bYa Y'bU'hU]Xc'Jm'cbU "'Fcj bU_ 'YZ' hi XcghU'Ya Y'fi bci 'XYZ]b]M'i 'hVi]Y'_z'fYgd"]a dclra 'g'•Vcfi 'hYgh'ge'

....BUghUj ĩa Ydfzj UdfYdfġhi d'_XUHVznYHyghdfYk YVej .f\c i yj UHy UfdFYj JUWbZefa zVġdcnf]a Ubi z``_AMGE@L:UfYcUXbYa Y
XUHVzni j ``Uj bca ĩa Ybi . ĩBScā cj !2Nbcj i !bU ĩHU 'AMGE@'J\cXbfdfzj UdfYbUyi 'Ud\zVġ'g•'
G9@97Hġ=BG9FHġ D85H9Z89@9H9

Dc'h Wġc'_fc_cW`Y'XUHVznUdf]dfUj Ybz'_dci y]ġhi "

. ġ VcfHYġġe`
. d\ dAn5Xa ġb'AnGE@Si a d
. \Hġ.##d\ dk ġnUXbYġ#d\ dAn5Xa ġb#
. <cgġġY . ``cW\cgġiSUHVznU. Hġġ
. !!!
. ũġfi _ġ fUHVġ ` _ndfYHVġ ` _i ġġfYXa Yġfi
.

I G9'85H5665G9Hġġ

7F95H9'H56@9'dfYXa Yġfi
Wġġbġfġ LBCHBI @@U ġcSġbWYā Ybġ
bUġc j UFWUġġ \$LBCHBI @@
_fYXġġġġbġbġfġ L'89: 5I @HġfġBCHBI @@
DF=A5FM?9MġMġL
L/

. 'Si a dġbġ XzġdfYHVġ ` _i ġġfYXa Yġfi
.
=BG9FH=BHC'dfYXa YġJ5@ 9G'fġfġfġfġ Uġā Uġ_ Uġġfġ fġ/
=BG9FH=BHC'dfYXa YġJ5@ 9G'fġfġfġfġ mġ_ Uġġfġ fġ/
=BG9FH=BHC'dfYXa YġJ5@ 9G'fġfġ fġfġcYFUMBU'UbU'mġUġġfġfġfġ/
=BG9FH=BHC'dfYXa YġJ5@ 9G'fġfġ fġfġDġnWc'cġġ Uġġfġfġfġ/
=BG9FH=BHC'dfYXa YġJ5@ 9G'fġfġ fġfġUcġ UbġYġġfġ fġ/

. !!!
. ũġfi _ġ fUHVġ ` _ndfYHVġ ` _i ġġġi XYbġfi
.

7F95H9'H56@9'ġi XYbġfi
ġXSġġġbġfġfġLBCHBI @@U ġcSġbWYā Ybġ
a Ybc j UFWUġġ \$LBCHBI @@
dfġYġġġġ c j UFWUġġ \$LBCHBI @@
fWġ UFWUġġfġfġLBCHBI @@
UXfYġUj UFWUġġ \$LBCHBI @@
ġġġ WUġfġL'89: 5I @Hġfġ
DF=A5FM?9MġġXSġġL
L/

. 'Si a dġbġ XzġdfYHVġ ` _i ġġġi XYbġfi
.

=BG9FH=BHC`gI XYbhJ5@ 9G'fif9ZfA]UbZf9 UW`zf9+\$%&&& & *zf9%zf9/
=BG9FH=BHC`gI XYbhJ5@ 9G'fif9ZfA]Ub_czf9 fUy_czf9*, , & &&&&zf9%zf9/
=BG9FH=BHC`gI XYbhJ5@ 9G'fif9ZfA]Ub_UZf9BYnIvi X_cj UZf9- - - &&' ' 'zf9)(zf9/
=BG9FH=BHC`gI XYbhJ5@ 9G'fif9ZfA]Ub_czf9f9i dHU`zf9,%\$%&&&&&zf9Uni`cj U&zf9/
=BG9FH=BHC`gI XYbhJ5@ 9G'fif9ZfA]Yf_cj UZf96cnYb_cj UZf9(, - (, , (, (zf9Yj UXrcj U&zf9/

.`!!

.`üfi`_h`fUHVi`_ndfYHVi`_i`f9UdSdfYXfi

7F95H9'H56@9'nUdSdfYXfi
[XSgh]bhf9%L'89: 5I @Hf9f9BCHBI @@z
Wl'jbf9%L'89: 5I @Hf9f9BCHBI @@z
DF=A5FM?9Mf9XgZVWL
L/

.`Si a d]b]`XzhdfYHVi`_i`f9UdSdfYXfi

=BG9FH=BHC`nUdSdfYXJ5@ 9G'fif9ZfA]f9/
=BG9FH=BHC`nUdSdfYXJ5@ 9G'fif9ZfA]f9/
=BG9FH=BHC`nUdSdfYXJ5@ 9G'fif9ZfA]f9/
.

Df;`UX%`!%`Jn]lgj`yYh` W`XU'cj`nHVi`_ndfYXa`Yhi

```
1 <?php
2 do {
3     $conn = Mysql_Connect("localhost", "uzivatel", "heslo"); //tu nastav
4     if (!$conn){
5         echo "Nepodarilo sa pripojit k databaze";
6         break;
7     }//endif
8     Mysql_Select_DB("test");
9     $vysledok = @mysql_query("SELECT * FROM predmet");
10    if (!$vysledok) {
11        echo "Chybny dopyt SQL";
12        break;
13    }//endif;
14    echo "<table border=\"1\"";
15    while($riadok = mysql_fetch_array($vysledok)) {
16        echo "<tr>\n";
17        echo "<td>".$riadok["cp"]."</td>";
18        echo "<td>".$riadok["nazov"]."</td>";
19        echo "<td>".$riadok["kredity"]."</td>";
20        echo "</tr>\n";
21    } // endwhile
22    echo "</table>";
23    } while (false);
24 ?>
```


Dfj `UX% !&"AUGHF!XHU`j dlg

```
<?php
  Header("Expires: ".GMDate("D, d M Y H:i:s")." GMT");
?>
<h2>Vypis studentov s predmetmi</h2>
<?php
function showForm() {
  //vypise formularik
  do {
    $conn = @Mysql_Connect("localhost","root","root");
    if (!$conn){
      echo "Nepodarilo sa pripojit k databaze";
      break;
    }// endif;
    Mysql_Select_DB("test");
    $query = "SELECT priezvisko FROM student ";
    $vysledok = @mysql_query($query);
    if (!$vysledok) {
      echo "Chybny dopyt";
      break;
    }//endif;
  }>

<form action="" method="post">
<select name="priezvisko">

<?php
  while($riadok = mysql_fetch_array($vysledok)) {
    echo "<OPTION VALUE=\"". $riadok["priezvisko"]. "\">";
    echo $riadok["priezvisko"]. "\n";
  } //endwhile
} while (false);
?>

</select>
<input type="submit" name="odosli" value="Odosli">
</form>

<?php
} //end show form

function spracuj() {
  global $priezvisko;
?>

<table border="1">
<?
do {
  $conn = @Mysql_Connect("localhost","root","root");
  if (!$conn) {
    echo "Nepodarilo sa pripojit k databaze";
    break;
  }
}
```

```

} // endif;
Mysql_Select_DB("test");
if (!isset($tried)) $tried="ASC";
$query="SELECT nazov,kredity FROM predmet,student,zap_pred WHERE priezvisko='$priezvisko'
        AND student.id_st=zap_pred.id_st AND zap_pred.cp=predmet.cp ";
// echo $query; //<!-- ak testujes, vyremuj komentar
$vysledok = @mysql_query($query);
if (!$vysledok) {
    echo "Chybny dopyt";
    break;
} //endif;
while($riadok = mysql_fetch_array($vysledok)) {
    echo "<tr>\n";
    echo "<td>".$riadok["nazov"]."</td>";
    echo "<td>".$riadok["kredity"]."</td>";
    echo "</tr>\n";
} //endwhile
} while (false);
echo "</table>";
}
?>
<div align="center"><a href="index.php">INDEX</a></div>

<?php
//end function Spracuj
if (!isset($priezvisko)) showForm();
else spracuj();

?>

```

19. Záver a PHP Klub

JýYh_midchfYVbf_jbZefa zVW^Y'a cýbf'ng_U U^bUXc_Yi j YXYb W^cX_UncW.'

- ...[kkk"d\d"g](#)
- ...[kkk"nYbX"Wa](#)
- ...[kkk"a nge"Wa](#)
- ...[kkk"UdUWY"cf](#)
- ...[kkk"d\dVi \]XYF"XY](#)

J`yh Xji `D<D`Jza `dca ` ýY'a Ubi z`Uf` nbY`bZefa Uhj bY'a Uhf|z`nž`hcf`^Y'a cýbf'ng_U `bU`bhfYbYh`5_`a zhy'nzi ^Ya `c`
 JW`nUg`Ub]ž`Y'a cýbf`gl`JW`cV`YXbU `bU`bUyY`gfbz_Y`gdc`i`g` `Ybgj`ca `j`bUyca `D<D`_i`VY`bU`gfbz_Y`

[\Hrd.##kkk"d\d"g`#Y\]`lghUWU"d\d](#)

:`jUb`b`a`df`gdY`_ca`nU` `Ybgj`c`#YX`bcfzncj`f`#df`gdY`Yh`bU`dfY`zXn`i`g`cj`Ybg`_f`c`gYf`YfU`[kkk"d\d"g](#)`j`Ybcj`Ub`f`c`dfcV`Ya`Uh`_Y`
 ^Um`U`D<D`U`j`j`c`U`k`Y`V`cj`W`U`d`_`z`W`#`Ng`Uh`X`j`Y`78`d`b`f`gc`Zk`U`Y`dfY`j`j`c`^`D<D`U`LA`@`U`d`_`z`W`U`df`g`i`d`_`h`i`hcf`U`ca`dfY` `Ybcj`
 D<D`_`i`Vi`"

