

## 24. Учебный проект: пришёл, увидел, загрузил (Часть 1)

### Задание

<wlfh aZ^ZgbgZfugzf jZ[hIZklvj\k\_jhf Bgl\_jn\_ckk\$jm ddmju  
^Zgguo bkihevamk\_fj\\_jgZ fh`gh ihkfhlj\_Alv \

### Загрузка данных

<wlfh jZa^f\_e\_kbgoghgbabjm\_f ehdZevguk\_j^Zghgfuq\_k\_a 5(67  
\$3, K\_j\\_j dhlhjuc^fjh\beeb ^ey \Zk jZ[hIZ\_l  
ihZ^j\_k KWWSSV KW-PHVD FDSGWSR W -FDPQ W/DHUN

>h[Z\vl\_ijh\_dl fh^mev dhlhjuc [m^\_l hki\_j\ejy 5(67Zijhku  
bkijh\_dlbjmc\_l\_]h bgl\_jn\_ck im[ebqgu\_f\_lh^u

Kha^Zcl\_ fh^mev dhlhjhf ijbfgbl\_ iZ:WZijgj^ey  
ij\_h[jZah\Zgby ihemq\_gguo\_j^ZgjZuoijb kdZqb\Zghm dZ\_l\_  
^Zggu\_nhjfZl\_ k\_j\\_jZZfbgm`gh ij\_h[jZah\ZhvnhofZl dhlhjuc  
\ujZajZ[hIZejZ^\_e\_klhm dlmjZo ^Zgguo

Например, если где lh \hbo ^Zgguobk\uevan6\_HW\Zf gm`gh kha^Zlv  
kZfhklhyl\_evgh lhlhfm qlhk^Zlgguj\_7hZxik\_jjZl\_-621  
\dhlhjhf g\_l fgh`\_kh]mZ [ulv lhevdkh^Z

M^Zebi\_ijha\_dIZ fhdmjdpbb ^ey jZghf k

Kha^Zcllhqd\_ \oh^Z wda\_fieyj fh^mey \$3,

Обратите внимание, что все запросы, которые в^m^\_l\_ ^\_eZlv ^he`gu  
kh^\_j`Zlv aZ]h^xwkh^Uk havgZq\_g b%DVLK emqZ dkgZhdZ`  
gZijbf\_ %DVHLF Z LN D

Kihfhsvx kha^Zggh]h fh^mey (k^aZiZk\_ZZj\_kWDVNMh[u  
ihemqblv kibkhd \k\_b\_j^ZjZq Baf\_gbl\_ hljbkh\dm kibkdZ aZ^Z  
qlh[u hgZ ijhbko^beZ lhevvdh ihke\_ ihemq\_gby ^Zgguo

M[^bl\_kv qlh kljZgbpZ hljbkh\u\Z\_lkymdhjjhZghuf gh  
kk\_j\\_jZ >h[Z\e\_gb\_ h[gh^eZg\_bgb\_b aZ^ZqjZ fhIZ\_gl\_ Wlh

h[gh\е\_гб\_фjZa[\_jzfkycè^mxs\_фimgdl\_  
Zk^h[Z\е\_гб\_ф m^Ze\_gh\fhjc qZklb ^hfZrg\_]h aZ^Zgby

## Обновление данных

ljbreh \j\_фy gZmqblvky kbgojhgbabjh\Zkvj\h[hgh\е\_гг  
Hkgh\gZy aZ^Zq\h[u ihemq\_ggu\_ bafihg\ghyZhl\_ey kgZqZeZ  
hlijZ\blv gZj\\_j ihemqg\y]h\h^h[j\_gbkemqZ\_ mki\_oZ h\h[jZa  
h[gh\е\_ggmxdZjlhqdm aZ^Zqb

Hibrbl\_\$3, f\_lh^ ^ey h[gh\е\_gby kaZ^Zqb gZy w\h]h gm`gh  
\uihegb\w8^aZijhkwDVNV wDyN^Z\е\_ aZijhkZ h[gh\е\_ggu\_ ^Zg

AZf\_gbl dZjlhq d\_ aZ^Zqb\_bj\_ ^Zdlbjh\Zgby aZ^Zqb iyyfmx jZ  
k^Zgufb gZ[hlmfk^\_evx

l\_j\_ibrbl\_dhgljhee\_j\_ dh^ dh\hjuc h\gh\Z\_lg aZ ^Zgguo  
qlh[u hgh\eyefgdb ^ZeZe aZijhk\_j\Zj ikfhsvx f\_lh^Z  
baimgdIZ ?keb ka^h\Zeb \k\_f gZrbf j\_dhf\_g^Zpbyf f\_lh^ dhg  
gZau\Z\_kyQ'DWD&KDQJH

**Обратите внимание, перед отправкой запроса на** h[gh\е\_гб\_ gm`gh  
ij\_h[jZah\Zlv ^Zgggm\hagg\_]h nhjfZIZ ijbelmhjgZlyk\\_jZ

<kemqZ\_ m^Zqgh]h aZijhkZ k\\_j\\_j \\_jgzl \Zf h[gh\е\_ggu\_  
l\_j\_ ^Zcl\_ dhgljhee\_jm\jgZh\bm[gh\bl\_ kibkhd aZ^Zq

**Обратите внимание, обработку неудачных запросов** m[jZlgmx k\yav  
\bgl\_jn\_ck\_jf\Zebam\_kfe\^mxs\_ф aZ^Zgbb

## 25. Личный проект: пришёл, увидел, загрузил (часть 1)

### Задание

<wlhf aZ^ZgbbZfugzf jZ[hkZlvj\\_jhф Bgl\_jn\_ckk\$jmddmju  
^Zgguo bkihevamkfj\\_jgZ fh`gh ihkfhllAlv \

## Загрузка данных

<wlf jZa^\_e\_kbfgojhgbabjm\_f ehdZevguk\_j^Zghgfuq\_k\_a 5(67  
\$3, K\_j\j\_dhlhjuc^fhu\h\beb^ey\Zk\_jZ[hIZ\_l  
ihZ^j\_kmWWSV KW-PQYDDESSWBRW WRJLSELJ-

>h[Z\vl\_ijh\_dl fh^mev\_dhlhjuc[m^\_l hkijZ\lej5\6gZ aZijhku  
bkijh\_dlbjmc\_l\_]h bgl\_jn\_ck im[ebqgu\_f\_lh^u

Kha^Zcl\_fh^mevev\_dhlhjhf\_ijbf\_gbl\_iZ:WZijgj^ey  
ij\_h[jZah\Zgby\_ihemq\_ggu\_k^fZgjZuoijb\_kdZqb\Zghm\_dZ\_l\_  
^Zggu\_nhjfZI\_k\_j\j\_ZZfbgm`gh\_ij\_h[jZah\Zhv\_bbjfZI\_dhlhjuc  
\ujZajZ[hIZejZ^\_e\_klhm\_dlmjZo^Zgguo

**Например, если где** lh\_k\hbo^Zggubok\uevan6\_HW\Zgm`gh\_kha^Zlv\_]kZfhklhyl\_evgh\_lhlhfm\_qlhk^Zhgguj\_NZxik\_hjZI\_-621  
\dhlhjhf\_g\_l fgh`\_kh]mZ[ulv\_lhevdh\_fZkkb\u

M^Zebi\_ijha\_dIZ\_fhdhbmjdpbb^ey\_jZghf\_bk

Kha^Zcl\_lhqd\_\oh^Z\_wda\_fieyj\_fh^mey\_\$3,

**Обратите внимание,** qlh\_k\_aZijhku\_dhl[mj\_d\_l\u^eZlv^he`gu  
kh^\_j`Zlv\_aZjh\_kxWkKULk\_hav\_Zq\_gb%DVLKRemqZdgZhdZ`  
gZijbf\_%DVHLR\_Z\_LN D

Kihfhsvx\_kha^Zggh]h\_fh^mey(k^a\_Zizok\_ZZj\_KSRLQvM[u  
ihemqblv\_kibkhd\kf\_Zojrlhmq\_Zdk\_j\jZ\_Baf\_gbl\_hljbkhd\dm\_kibk  
fZjrjmlZ\_lZd\_qlh[u\_hgZ\_ijhbkoh^bez\_lhevdh\_ihke\_ihemq\_gby

K^\_eZcf(7-aZijhk\_ZZj\_KGHVWLQvM[u\_hf\_vhemqblv\_kibkhd\k\_o  
\hafh`guo\_gZijZ\e\_gbc^ey\_fZjrjmlZ\_Kha^Zcl^eyc\_kibkdZ\_gZ  
hl^\_evgmx\_kljm\_dZjmbb\_g\z\_ihemq\_ggu\_^Zggu\_

lj\_h[jZamcl\_gZa\Zgbyhfe\_kh\_bgh]h\_kibkdZ\\_hafh`guo\_gZijZ\  
\\_GDWD\_OLevwihey\\h^Z\_gZijZ\e\_gby\_ljbf\_j\_lh]h\_dZd  
ihvah\Zl\_voy\_dofh\_w\_l\_ihkfhlj\_lv@Z\_L\_i\_jv\_ijb\\h^\_  
gZijZ\e\_gby\_fh`gh[m^\_l\ujZlv\_h^ghZj\_Z^Zghh\_klghf\_kibkd

K^\_eZc(7-aZijhk Zj\_KRIIHqVh[u ihemqblv kibkhd ij\_^eh`\_gb  
ih\k\_f\hafh`guf lbiZkhbojZgbkhh\l\lkl\mxs\_c kljmdlmj\_ ihemq  
^Zggu\_

M[\_^bl\_kv qlh kljZgbpZ hIjbkh\u\Z\_lkm`dhjZgguhf gh  
kk\_j\\_jZ >h[Z\e\_gb\_ h[gh\ezegbgbb lhq\_d fZjrjmIjZ[mZlZlg\_  
Wlh ghjfZevgh[gh\ezegbgbb fZa[jzfkY ke\_^mxs\_f imgdl\_  
Zk^h[Z\e\_gb\_f m^Ze\_gb\hjhqZkIb ^hfZrg\_]h aZ^Zgby

## Обновление данных

Ijbreh \j\_fy gZmqblvky kbgojhgbabjh\Zkvj\h[hfh\e\_gg  
Hkgh\gZy aZ^ZqVh[u ihemq\_ggu\_ balfihgvgbyZI\_ey kgZqZeZ  
hlijZ\blv gZj\\_j ihemqblv]hIh^h[j\_gbkemqZ\_ mki\_oZ hIh[jZa  
h[gh\ezeggmX lhqdm fZjrjmIjZ

Hibrbl\_\$3, f\_lh^ ^ey h[gh\ezegby lhqdbkfZjrjmIjZ>gZy wIh]h  
gm`gh \uihegbfaZijhKSRLQWV sRjQWZe\_ aZijhkZ h[gh\ezeggu  
^Zggu\_

AZf\_gbl\_dh^\_ ijyfmX jZ[AZngkufb jgZhlmfk^\_evx

I\_j\_ibrbl\_dhgljhee\_j\_ dh^ dhIhjuc hI\gh\ezegbaZ ^Zgguo  
qlh[u h[gh\eyefgdb ^ZeZe aZijhk\_jZj ikfhsvx f\_lh^Z  
baimgdIj?kebka^h\Zeb \k\_f gZrbf j\_dhf\_g^Zpbyf f\_lh^ dhg  
gZau\Z\_KryQ'DWD&KDQJH

**Обратите внимание, перед отправкой запроса на** h[gh\ezegb\_ gm`gh  
ij\_h[jZah\Zlv ^ZgggmIhagg\_]h nhjfZIZ ijbeIhjgZlyk\\_j\\_jZ

<kemqZ\_ m^Zqgh]h aZijhkjZzlk\Zf\_h[gh\ezeggu\_ ^Zggu\_  
I\_j\_^Zcl\_dhgljhee\_j\_hIjZkh\dh[gh\bl\_ kibkhd lhq\_d fZjrjmIjZ

**Обратите внимание, обработку неудачных запросов** h[jZlgmx k\yav  
\bgl\_jn\_ck\_jfZeBam\_kfe\\_^mxs\_f aZ^Zgbb

DbghfZg

## Загрузка данных

wlhf jZa^\_e\_kbfgojhgbabjm\_f ehdZevguk\_j^Zghfuq\_k\_a 5(67  
\$3, K\_j\ \_j dhlhjhc^]fuh\beb ^ey \Zk jZ[hIZ\_l  
ihZ^j\_kmWWSV KW-PYDDESSWFRW FRP FLQHPDGGFLFW

>h[Z\vl\_ijh\_dl fh^mev dhlhjuc [m^\_l hkiij\lej 5\ 6gZ aZijhku  
bkijh\_dlbjmcl\_ \_]h bgl\_jn\_ck im[ebqgu\_ f\_lh^u

Kha^Zcl\_ fh^mevev dhlhjhf ijbfgbl\_ iZ:WZijgj^ey  
ij\_h[jZah\Zgby ihemq\_ggu\_k^jZgjZuoijb kdZqb\Zghm qZ\_l\_  
^Zggu\_nhjZl\_ k\_j\ \_jZfbgm`gh ij\_h[jZah\Zhv bbfZlhdjuc  
\ujZa jZ[hIZejZa^\_e\_kljmdlmjZo ^Zgguo

Например, если где lh k\hbo ^Zggubok\uevam6\_H\W\Zf gm`gh kha^Zlv  
kZfhklhyl\_evgh lhlhfm qlhk^Zlgguj\_7ZxikhjZl\_-62'  
\dhlhjhf g\_l fgh`\_kh]mZ [ulv lhevdh fZkkb\ u

M^Zebi\_ ijb\_dIZ fhdmldpbb ^ey jZgbfb k

Kha^Zcllhqd\_ \oh^Z wda\_fieyj fh^mey \$3,

Обратите внимание, что все запросы, которые в m^\_l\_ ^\_eZlv ^he`gu  
kh^\_j`Zlv aZ]hcxWkUk havgZp\_g b%DVLK emqZ dgZhdZ`  
gZijbf\_%DVHLR Z LN D

Kihfhsvx kha^Zggh]h fh^mey\*(k^aZiZbk\_ZZj\_kPRYLHq]h[u  
ihemqblv kibkhd \k\_o kb^vfhZ kBaf\_gbl\_ hljbkh\dm kibkdZ nb  
lZd qlh[u hgZ ijhbkoh^bez lhevdh ihke\_ ihemq\_gby ^Zgguo

Обратите внимание, что комментарии— wlh hl^\_evgZy kmskghjklvj\_gZ  
Zfh^\_eb nbevfh\ ojZgyl lhevghgpb i jZ[hbthfk\_glZjbyfb hibkZg  
\ke\_^mxsbo rZ]Zo

>ey aZ]jmadb dhff\_glZjb\_\ ^ey dhgdj\_lgh]h(7-bevfZ k^\_eZc  
aZijhKFRPPHQWV PRYLH,G

M[\_^bl\_kv qlh kljZgbpZ hljbkh\u\Z\_lkm`dhijhZgguf gh  
kk\_j\ \_jZ >h[Z\e\_rg bZeb\_gb\_ dhff\_glZZb\ hZgh\e\_gb\_  
bgnhjZpbmbhevf\_ ihdZgghIZ\_l Wlh ghjfZevgh\ekgb\_f  
bgnhjZpbmbhevf\_ fjuZa[\_jzfkya^\_mxs\_f imZdhklZevguf  
\h\lhjhc qZklb ^hfZrg\_]h aZ^Zgby

Обновление данных

k\_j\\_jhf  
Hkgh\gZy aZ^Zq\h[u ihemq\_ggu\_ bafihgbyZhleey kgZqZeZ  
hlijZ\blv gZj\\_j ihemqbgv]h h^h[j\_gbkemqZ\_ mki\_oZ hlh[jZa  
h[gh\e\_ggmxbgnhjfbpexfh

Hibrbl\_ \$3, f\_lh^ ^ey h[gh\e\_gby bgmbjZfpbgZj\\_j\_ >ey  
wlh]h gm`gh \uihbgZijh kPRYLHV PRI\_LH,^Zl\\_e\_ aZijhkZ  
h[gh\e\_ggu\_ ^Zggu\_

AZf\_gbl\_dh^\_ ijyfm x jZ[ ^Zngkufb jgZhlmfk^\_evx

l\_j\_ibrbl\_dhgljhee\_j\_ dh^ dhjhjuc hl\gh\Z\_lgbZ ^Zgguo  
qlh[u hgh\eyefg\_db ^ZeZe aZijhk\_kjZj ikfhsvx f\_lh^Zi ba  
?keb \ue\_^h\Zeb \k\_f gZrbf j\_dhf\_g^Zpbyf f\_lh^ dhgljhee\_jZ  
gZau\Z\_ BkQ'DWD&KDQJH

**Обратите внимание, перед отправкой запроса на** h[gh\e\_gb\_ gm`gh  
ij\_h[jZah\Zlv ^Zgggmhagg\_]h nhjfZIZ ijbebmhjgZlyk\\_j\\_jZ

<kemqZ\_ m^Zqgh]h aZijhkZ k\_j\\_j \\_jgzl \Zf h[gh\ezggu\_  
l\_j\_^Zcl\_ dhgljhee\_jmhgjZkh\dm[gh\bl\_ kibkhd nbevfh\

**Обратите внимание, обработку неудачных запросов** m[jZlgm x k\yav  
\bgl\_jn\_ck\_jfZe bam\_kfe\\_^mxs\_f aZ^Zgbb

## 26. Учебный проект: пришёл, увидел, загрузил (Часть 2)

### Задание

#### Создание и удаление данных

<wlhf aZ^ZgbbhdhgpZ j\_Zebam\_f \aZbfhk\_jdkljvbf\_ k

Hibrbl\_ \$3, f\_lh^u ^ey ^h[Z\ze26gby m^Ze\_gby(7( aZ^Zqb  
gZk\_j\\_j\_

Baf\_gbl\_ f\_ BkQ'DWD& kdhqJhhee\_jZ lZd qlh[u ijb gZ`Zlbb  
gZdghidbmYk kemqZ\_ kha^ZgbayZgZqbc kgZqZeZ hlijZ\eyeky  
aZijhk gZj\\_j dhlh]wckha^Z\Ze dhgdj\_lgmxlhæZ\ZkqemqZ\_  
mki\_rgh]h aZ\\_jr\_gby ^hlgZkijZegbpm

Baf\_gbl\_ f\_ BkQ'DWD& kdhqJhhee\_jZ lZd qlh[u ijb gZ`Zlbb  
gZdghidbmHwkgZqZeZ hlijZ\eyeky aZijhk gZj\\_j dhlh]wc  
m^Zeye dhgdj\_lgmxlhæZ\ZkqemqZ\_ mki\_rgh]h aZ\\_jr\_gby m[bj  
\_zkhkljZgbpu

## Обратная связь

>hjZ[hIZcl\_ bgl\_jn\_ckgzZdhY\plehZkw NhajZqgZy h[jZlgZy k  
hkhklhygbb \k\_o aZhrbklZb

ljb hijZ\d\_ baf\_g\_gblcjfuaj\_^Zdlbjh\Zgby j\_Zebamcl\_ ke\_^mxs

AZ[ehdbjmccl\_ nhjfm \dexqZy dghdgmichmijZ^Zbe\_bgby aZ^Zqb

AZf\_gbl\_ l\_dkl dghidb hZjZ\dd gZ

?keb baf\_g\_gb\_ ijhbahreh mki\_rgh jk\_djZcllbjhm\Zjgmy  
bihdZ`bl\_ \f\_klh g\_z dZjlhqdm aZ^Zqb

?kebfhf\_gl hlijZ\db aZijhkZ\gjZ ijhbahreZ hrb[dZ jZa[ehdb  
nhjfm \\_jgbl\_ l\_dghidZbkoh^gh\_ khklhYhZ\vb\_ nhjf\_  
kihfhsvx &66 wnn\_dl ©ihdZqb\Zgby ]hemhmc^dlZdWu^ey  
gZclb gb`\_ beb fh`\_l\_ j\_Zebah\Zlv wihl wnn\_dliZzfkhyl\_ev  
^h[Z\vl\_ [ehdmjfhc j\_^Zdlbjh\Zgby djZkgmx h[\h^dmZklbebaZ  
mkfhlj\_gb\_

l\_j\_^ ih\lhjghc hlijZ\dhc m[bjZcl\_djZkgmx h[\h^dm

>h[Z\vl\_ h[jZlgmxvkgmZ^Ze\_gb\_ aZ^Zqb ZgZeh]bqgmxlhc dh  
\ulhevvdh qlh k^\_eZeb ^ey j\_^Zcllbjhm\Zjgmy aZijhkZ  
[ehdbjmccl\_ nhjfm aZf\_gycdghidkljZ\ddWLO?keb \kz ijhreh  
ohjhrh m^Zeycl\_h[ghdeycl\_ ^Zggukeb:ijhbahreZdZrb  
^h[Z\eycl\_ wnn\_dl ©ihdZqb\ZgbyZkqemxhb\^dm

## Эффект покачивания головой

\Zk aZjZ[hIZeZ ZgbfZp`y\_ \uh[Z\bkv\h\zjklm  
wihl dh^

VW\OH!

@NH\IUDVPKH\NH

100%{

WUDQWUDQVODWH;

,

{

WUDQWUDQVODWH;

,

{

WUDQWUDQVODWH;

,



VKQNH

DQLPDVKBNHV

VW\OH!

## 27. Личный проект: пришёл, увидел, загрузил (часть 2)

### Задание

- ;hevrh\_ iml\_r\_kl\b\_

### Создание и удаление данных

```
<wlhf aZ^Zgbhddh gpZ j_Zebam_f \aZbfhK_jdklj\bf_ k
```

```
Hibrbl_ $3, f_lh^u ^ey ^h[Z\326gby^Ze_gby(7( Ihqdb  
fZjrjmlZgZk_j\_j_
```

```
Baf_gbl_ f_ BRQ'DWD&dhqJhhee_jZ lZd qlh[u ijb gZ`Zlbb  
gZdghidmYHkgZqZeZ hlijZ\eyekZijhk gZj\_j dhlfjwc  
kha^Z\Ze dhgdj_lgmX lhqdméZjrhéZnqZ_ mki_rgh]h aZ\_jr_gby  
^h[Z\eye g_ZkljZgbpm
```

```
Baf_gbl_lh^BRQ'DWD&dhqJhhee_jZ lZd qlh[u ijb gZ`Zlbb  
gZdghidmOHwkgZqZeZ hlijZ\eyekZijhk gZj\_j dhlfjwc  
m^Zeye dhgdj_lgmX lhqdméZjrhéZnqZ_ mki_rgh]h aZ\_jr_gby  
m[bjZe k_hkljZgbpu
```

### Обратная связь

```
>hjZ[hIZcl_ bgl_jn_c kgzfZ dhY\фelZ[kw ñhajZqgZy h[jZlgZy k  
hkhklhygbb \k_o aZhjrbbk\Zb
```

nhjfu j\_^Zdlbjh\Zgby j\_Zebamcl\_ ke\_^mxs

AZ[ehdbjmccl\_ nhjfm \dexqZy dghdgmichijZ\Zb\_bgby lhqdb  
fZjrjmlZ

AZf\_gbl\_ l\_dkl dghidb hZjZ\dd gZ

?keb baf\_g\_gb\_ ijhbahreh mki\_rgh kdjhcl\_ nhjfm j\_^Zdlbj  
bihdZ`bl\_ \f\_klh g\_z lhqdm fZjrjmlZ

?kebfhf\_gl hlijZ\db aZijkkZ\gjZ ijhbahreZ hrb[dZ jZa[ehdb  
nhjfm \\_jgbl\_ l\_dghidZbkoh^gh\_ kghl^h[Z\vl\_ nhjf\_  
kihfhsvx &66 wnn\_dl ©ihdZqb\Zgby ]heh\hc^ &66`^ey wnn\_  
gZclb gb`\_ beb fh`\_l\_ j\_Zebah\Zlv wihl wnn\_dliZf\_hklhyl\_ev  
^h[Z\vl\_ [ehdmjfhc j\_^Zdlbjh\Zgby djZkgmx h[\h^dm\ZklbebaZ  
mkfhlj\_gb\_

l\_j\_^ih\lhjghc hlijZ\dhc m[hjZclZ djZkgmx h[\h^dm

>h[Z\vl\_ h[jZlgmx khy^Zeggb\_ lhqdb fZjrjmlZ ZgZeh]bqgm  
dhlhjmxlhuevdh qih k^\_eZeb ^ey j\_^Zdlbjh\ZgbyZ\dd aZijkkZ  
[ehdbjmccl\_ nhjfm aZf\_gygdghidklgZWLQ?keb \kz ijhreh  
ohjhrh m^Zeycl\_h[ghdeycl\_ ^Zggukeb:ijhbahreZ hrb[dZ  
^h[Z\eycl\_ wnn\_dl ©ihdZqb\ZgbyZkgmxhbl\b^dm

## Эффект покачивания головой

>ey lh]h \qZh [aZjZh hIZeZ ZgbfZp`byl\_ \uh[Z\bkv\hx \zjdm  
wihl dh^

VW\OH!

@NH\IUDVPHNH

100%{

WUDQWUDQVODWH;

,

```
{  
WUDQWUDQVCSWH;  
,
```

```
{  
WUDQWUDQVCSWH;  
,
```

```
VKDNH  
DQLPDVKDNHV  
,
```

```
VW\OH!
```

- DbghfZg

## Создание и удаление данных

<wIhf aZ^Zgb^bhdhg pZ j\_Zebam\_f \aZbfhK\_jdkljVbf\_ k

Hibrbl\_ \$3, f\_lh^u ^ey ^h[Z\326gby^Ze\_gby(7(  
dhff\_glZjbykgZ\_j\_

Baf\_gbl\_ f\_ BkQ'DWD&dhqJjhee\_jZ lZd qlh[u ijb hlijZ\d\_  
dhff\_glZjby kgZqZeZ hlijZ\eyZijk kgZj\\_j dhlh]w dha^Z\Ze  
dhff\_glZjbdhvdhkmqZ\_ mki\_rgh]h aZ\\_jr\_gby ^hklZgbybm]h

Baf\_gbl\_ f\_ BkQ'DWD&dhqJjhee\_jZ lZd qlh[u ijb gZ`Zlbb  
gZdghidmohwkgZqZeZ hlijZ\eyZijk kgZj\\_j dhlh]w c  
m^Zeye dhff\_glZjbdhkmqZ\_ mki\_rgh]h aZ\\_jr\_gby m[bjZe  
khkljZgbpu

## Обратная связь

>hjZ[hIZcl\_ bgl\_jn\_c\kgzfz dhy\p ehZkw ijhajZqgZy h[jZlgZy k  
hkhklhygbb \k\_o aZhrbklZb

ljb hlijZ\d\_ gh\h]h dhff\_glZjby j\_Zebamcl\_ ke\_^mxsb\_ rZ]b

AZ[ehdbjmcl\_ nhjfm dhlhjZy kh^\_j`bl l\_dkl dhff\_glZjby

?keb hlijZ\dZ ijhbahreZ mki\_rghihZi[Z\h\luc\d hffZjbc  
hqbkbl\_ nhjfmZjlo ^ZggjZa ehdbjmcl\_ \_z

?kebfhf\_gl hlijZ\db aZijkkZ\gjZ ijhbahreZ hrb[dZ jZa[ehdb  
nhjfm ^h[Z\vl\_ nhjfhsvx &66 wnn\_dl ©ihdZqb\Zgby ]heh\hc  
^ey wnn\_dlZ\h\ul\_ gZclb gb`\_ beb fh`\_lZlv Zebahwnn\_dl  
kZfhklhyl\_evgd`Z ^h[Z\vl\_ ihex ^ey \h^Z dhff\_glZjby djZk  
klbebaZpbyZrgZmkfhlj\_gb\_

l\_j\_^ ih\lhjghc hlijZ\dhc m[bjZc^eyk\h^Z dhff\_glZjby djZk  
h[\h^dm

>h[Z\vl\_ h[jZlgmx khyajZ\gZn j\_clbg]Z

lhke\_ gZ`Zlby aZ[ehdbjmcl\_ nhjfm ]hehkh\Zgby

?keb hlijZ\dZ ijhbahreZ mki\_rgh jZa[ehdbjmcl\_nZjdh\h  
lmhp\_gdm dhlhjmx ihklZ\be ihevah\Zl\_ev

?kebfhf\_gl hlijZ\db aZijkkZ\gjZ ijhbahreZ hrb[dZ jZa[ehdb  
nhjfm ^h[Z\vl\_ rfjhkhfhsvx &66 wnn\_dl ©ihdZqb\Zgby ]heh\hc

fh`\_l\_ gZclb gb`\_ beb fh`\_l\_ j\_Zebah\Zlv wihl wr  
kZfhklhyl\_evghf\_gycl\_ p\\_l nhgZ ihey djZkgd bc gZ

l\_j\_^ ih\lhjghc hlijZ\dhc m[bjZcl\_ djZkguc nhg

## Эффект покачивания головой

> ey lh]h \Zkh [aZjzh hIZeZ ZgbfZp`byl\_ \uh[Z\bkh\h x \zjkl dm  
wihl dh^

<VW\OH

@NH\IUDVPHN

100% {

WUDQWUDQVODWH;

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WUDQWUDQVODWH;

,

{

WUDQWUDQVCSQWH;

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,

VKQNH

DQLPDVKQNHV

,

VWIOH