

h d k b f (i k k k s(u m
ds (C

10

j v cu w ti 'i s l'cu
io t.
qs l t v i e i c d o s s
lio th
dxs - dx uxy

aotvic s v l t c t l'ltlo
lous ti it v i s vus entt
is n ct twile co oc leA
- r s l x

uc'ios lio tos vi cms
s tinA
d E uy

m p n 0 s 2 p.

b| w x r w o t —to | H

■ i — t r x u d p o t u (r + o |)
- p x r o | s d p o t u z t z p t
u | r x + 0

■ i — r t o t - p x r r - z — t s
- u - w t - p x r 0

■ i — t g s k f o e u | r x +
o | s g s k f o e r - o t 0

■ i — t w t u i k t - x | t 0

■ i — t t u b u k d s o o
z t z p t o | s z t z p t
u | r x + 0

■ i w t r + r t - u o r + o x | t
r - o 0

■ i w t | - x + - u x t o - r - o t
w o o' w - v w w t
t t z t | - u r + o x | t
r - o t 0

■ i — t — r - o t — w s t
x t z t | o x + s t o x - u - z
o r - o r x | 0



Uu bl -s r x+

Uf dpotu (O+ ol) e p̄r ol s
dpotu d t z pt U | r x+Uh O-z -x+He p̄r o d t z pt -u
Oo tUj gskfoe U | r x+ ol s gskfoe
Oo t

U j x|v wt uikt f-x| t

U tubukd Oo d t z pt

U Pool p or x+ ol s bl u-z o x+
a x|v

U l o .j

Summary | Terminology | Self-Review Exercises | Answers to Self-Review Exercises | Exercises |
Making a Difference

Uu w-(o l nōs(w

Rv -p̄q̄ kpix-na0[mkw-q; mw, z '3 l "wnkti" m̄ ivl li-i ij' -zi k-qw [qp 'nāi t u wzm
il? ivknh -wxq' 2f m̄ 'mdpotu wj m̄- ivl dpotu u nū j nā n vk-qw' -wxznān-u w l q̄ki l
-qw' w n wj m̄- ivl n n w z km-pmxzq̄ kq̄ t m w n t n̄ -x z q̄ q n n 2f m l q̄k; " kwu x w q̄-qw i
n w z u w n z n̄ 'm q̄ [p̄q̄p i kti" ki v pi? m wj m̄- w n w-p nā kti" m̄ i' u nū j nā 2U n̄-0[m q̄ l
-z w l ; k m r z q̄ w l 'p̄q̄0[p̄q̄p n̄ i j t n̄ i kti" l m̄ q̄ v nā -w' x n k q̄i v w u nū j nā n vk-qw' -pi-
ki v i k k m̄' i kti" -v w l r v c m k d u nū j nā i -n k p v q̄; m-pi-q̄ w n n̄ ; 'n h q̄ v x nā i -w z w̄ nā l
t w i l q̄ o , H p i x -nā 55- n w z x n n w z u i v k m z n̄ 'w' 2f m l q̄k; " i 'x n k q̄ t x w q̄ -nā , k i t n h u i k t -0
[p̄q̄p q̄ i v q̄ i x t q̄ q̄ -i z o ; u n w -w n i k p w n i kti" -v w l t u b u k d u nū j nā n vk-qw' 2P-i t t w l '
-p w̄ n u nū j nā n vk-qw' -w i k k m̄' -p n k w z z n k -w j m̄- l i -i u nū j nā i v l w p nā v w l t u b u k d
u nū j nā n vk-qw' 2M̄ i t t "0[n u w -q̄ i -m-p m n n h n w z t u b u k d kti" u nū j nā i v l 'p w l p w l
-w; 'm t u b u k d l i -i u nū j nā i v l u nū j nā n vk-qw' q̄ "w; z w l v kti" m̄ 2

Uf e f 9P(w.d wō: mpn0. l wo e f pv mp-
l w nōs(w

S m̄- 'n m p w l -p m x z q̄ k q̄ t m w n t n̄ -x z q̄ q n o m i x x t q̄ n̄ -w w j m̄- 2b w u m w j m̄- v n n h -w j m
u w l q̄ q̄ j t n i v l 'w u m l w w w -2h w ; u i " ; 'm s m̄[w l d p o t u -w' x n k q̄i -pi-i v w j m̄- q̄ v w -
u w l q̄ q̄ j t n i v l -pi-i v " i -n u x -w u w l q̄i -p m w j m̄- p w ; d z n̄ ; t -q̄ i k w u x q̄i -q̄ w n a z w z 2
c p m̄-i -n n̄ -

dpotu \knf oppo+ 451 31 3 ,>

l n kti z n̄ i dpotu wj m̄- oppo w n kti" \knf i v l q̄ q̄ q̄ t̄ m̄ q̄ -w 56 v w w 2



d(03 l-p w r swpp-swr m p-2l 0s(w Uu

z n v z y z u u l p + k t b c u n z k w n k' o z k z u v p s n z p n u k z n w z k t k' y p t o
n n 'z p u t -z p n n w w u n g c



bp- (-v l w n p e s) Uu

D n s k u p t o (k u p k s n y k t l u n z y t b c) n̄ k v v u w u p k z n k t p v u u (n v m u r i a v k t n
u v p s n y k t v m u r i a v n a k e p t u w z p p k z p u t y u t u t y z k t z y z k z k t t u z n v m u r i a v n l u t
(k u p k s n y c

H. l qittw[' u nu j na n vk-qw ki tt' nzw dpotu wj mk-'; vtm' -pmu nu j na n vk-qw' -pmu' m' m' izni t' wl nkti znh dpotu2c p q q -z; mna nw nzw onzu nu j na n vk-qw' -pi -l wvw- u wl q' -pmwj mk-2

E u nu j na n vk-qw q' xnkqph i' dpotu uz q' q' xzw-w-xm, Mp2545 tqm 5C 68- ivl q' q' l nmy q' q' w, Mp2545 tqm 8708C099 ivl : 5- j " q' na-q' o -pms m[wzl dpotu i na -pmu vk-qw' -xi zi u nna tq-i vl 0q' -pmki' mwn-pmu vk-qw l nmy q' q' w 0j nna zm-pmnm- j zi km-pi-j nq' -pmu vk-qw j wl "2



P(v v (wb-(r-l v v swr --(- Uu

Dnpt tok y t bck n nu't xput z kz ul ppykl kzk n nuu z nu n zpyk u - vpskxut naonu



P(v v (wb-(r-l v v swr --(- Uif

Dnpt tok y t bck n nu't xput z kz kssyk tut - t bc n nu't xput u z n skyy ut z nyk nu n zpyk u vpskxut naonu



P(v v (wb-(r-l v v swr --(- Uih

N(urpt ok tut - t bc n nu't xput ut k t bc u n zpyk u vpskxut naonu



d(03 l-p wr swpp-sw m p-2l 0x wUif

t bc n nu't xput kt nu(nsu kl nl) pz kt ut - t bc (nuyt c g n u vpsw uayy) p u(nsu kl nl n nu't xput zu 'yn kyrl ut z nu n z ut) p z n 't xput pyt (ur nl c Nz nu n zpy t bc, z n u vpsw' yryz n t bc (nuyt c Nz nu n z pyt uz t bc, z n u vpsw' yryz nt ut - t bc (nuyt c

Ev q' -nam-q' o xzwj tnu i z q' m' nzw kw' -z; k-wz' ivl l m'-z; k-wz' 0ninkp wn[p d q p -"x d i t t" u wl q' q' n wj mk-2E kw' -z; k-wz u ; ' -j mi ttw[nh -wu wl q' i v wj mk- ' w-pi -pmwj mk-ki v j m q' q' q' t q' nh xzw nat "2E l m'-z; k-wz u ; ' -j mi j tm-wx nzw zu q' -nau q' i -qw pw, ' na nna q' o kpwzm j nna zmi v wj mk- u nu wz' q' z nkti q' nh j " -pm' " -nu 2



P(v v (wb-(r-l v v swr --(- Uij

z n vzpt o zu l n skw k ut yzu znuvul nyzu zuv t bc pyk u vpskxut naonu

I i l o l o c o t l o 1Dvy z i i q o e u s o t

c pmxzwozi u wn Mp' 2545 5427 u wl q' q' n kti " \knf wn Mp' 2CB Cxj " u i s q o q' onz n vk-qw' ivl rskou]okwfstbm n vk-qw dpotu2Rv -pnprnl na ntm\knf. i , Mp2545-0tqm 5C 65 ivl 68 v w[q' kt; l ns m[wzl dpotu i na ninkp n vk-qw' -xi zi u nna tq-2c pmkwz l zmxwl q' o l nmy q' q' w wninkp n vk-qw q' Mp2545, tqm 8708C099 ivl : 50zmxnk-q' m' - i t' w' xnkqph s m[wzl dpotu i na ninkp n vk-qw' -xi zi u nna tq-2

- 2 // Ikh. 43.4= \knf.i
- 3 // \knf dmbtt efgkokukpo !kui dpotu nfncfs gvodukpot.
- 4 // Tfncfs gvodukpot efgkofe ko \knf.drr.
- 5 %kgoefg \NTH~M
- 6 %efgkof \NTH~M

```

7
8 dmbtt \knf
9
rvcmkd=
21 \knf+ kou A 31 kou A 31 kou A 3 ,> // efgbvmu dpotusvdups
22
23 // tfu gvodukpot
24 wpke tfu\knf+ kou1 kou1 kou ,> // tfu uknf
25 wpke tfuMpv+ kou ,> // tfu ipvs
26 wpke tfuTkovuf+ kou ,> // tfu nkovuf
27 wpke tfuafdpoe+ kou ,> // tfu tfdpoe
28
29 // hfu gvodukpot +opsnbmm efdmbsfe dpotu,
2 kou hfuMpv+, dpotu> // sfuvso ipvs
31 kou hfuTkovuf+, dpotu> // sfuvso nkovuf
32 kou hfuafdpoe+, dpotu> // sfuvso tfdpoe
33
34 // rskou gvodukpot +opsnbmm efdmbsfe dpotu,
35 wpke rskou]okwfstbm+, dpotu> // rskou vokwfstbm uknf
36 wpke rskouauboebse+,> // rskou tuboebse uknf+tipvme cf dpotu,
37 rskwbuf=
38 kou ipvs> // 3 2 56 +572ipvs dmpd1 gpsnbu,
39 kou nkovuf> // 3 2 8<
3 kou tfdpoe> // 3 2 8<
41 > // foe dmbtt \knf
42
43 %foekg

```

sr I UūU \knf r-θ stx|xx-| xwdpotu z tz pt u |r x-| 0(f o 4 -40)

```

2 // Ikh. 43.5= \knf.drr
3 // \knf dmbtt nfncfs2gvodukpo efgkokukpot.
4 %kodmvef ?kptusfbnB
5 %kodmvef ?kpnbokrB
6 %kodmvef #\knf.i# // kodmvef efgkokukpo pg dmbtt \knf
7 vtkoh obnftrbdf tue>
8
9 // dpotusvdups gvodukpo up kokukbm f rskwbuf ebub>
// dbmmt nfncfs gvodukpo tfu\knf up tfu wbskbcmt>
21 // efgbvmu wbmvt bsf 3 +tff dmbtt efgkokukpo,
22 \knf==\knf+ kou ipvs1 kou nkovuf1 kou tfdpoe ,
23
24 tfu\knf+ ipvs1 nkovuf1 tfdpoe ,>
25 // foe \knf dpotusvdups
26
27 // tfu ipvs1 nkovuf boe tfdpoe wbmvt
28 wpke \knf==tfu\knf+ kou ipvs1 kou nkovuf1 kou tfdpoe ,
29
2 tfuMpv+ ipvs ,>
31 tfuTkovuf+ nkovuf ,>
32 tfuafdpoe+ tfdpoe ,>
33 // foe gvodukpo tfu\knf

```

sr I Uūf \knf r-θ z tz pt .u |r x-| stx|xx-| 0(f o 3 -40)

```

34
35 // tfu ipvs wbmvf
36 wpke \knf==tfuMpvst+ kou i ,
37
38 ipvs A + i BA 3 )) i ? 57 , D i = 3> // wbmkebuf ipvs
39 // foe gvodukpo tfuMpvst
3
41 // tfu nkovuf wbmvf
42 wpke \knf==tfuTkovuf+ kou n ,
43
44 nkovuf A + n BA 3 )) n ? 93 , D n = 3> // wbmkebuf nkovuf
45 // foe gvodukpo tfuTkovuf
46
47 // tfu tfdpoe wbmvf
48 wpke \knf==tfuafdpoe+ kou t ,
49
4 tfdpoe A + t BA 3 )) t ? 93 , D t = 3> // wbmkebuf tfdpoe
51 // foe gvodukpo tfuafdpoe
52
53 // sfuvso ipvs wbmvf
54 kou \knf==hfuMpvst+, dpotu // hfu gvodukpot tipvme cf dpotu
55
56 sfuvso ipvs>
57 // foe gvodukpo hfuMpvst
58
59 // sfuvso nkovuf wbmvf
5 kou \knf==hfuTkovuf+, dpotu
61
62 sfuvso nkovuf>
63 // foe gvodukpo hfuTkovuf
64
65 // sfuvso tfdpoe wbmvf
66 kou \knf==hfuafdpoe+, dpotu
67
68 sfuvso tfdpoe>
69 // foe gvodukpo hfuafdpoe
6
71 // rskou \knf ko vokwfstbm2uknf gpsnbu +MM=TT=aa,
72 wpke \knf==rskou]okwfstbm+, dpotu
73
74 dpvu ?? tfugkmm+ 3 , ?? tfu!+ 5 , ?? ipvs ?? #=#
75 ?? tfu!+ 5 , ?? nkovuf ?? #=# ?? tfu!+ 5 , ?? tfdpoe>
76 // foe gvodukpo rskou]okwfstbm
77
78 // rskou \knf ko tuboebse2uknf gpsnbu +MM=TT=aa ET ps YT,
79 wpke \knf==rskouauboebse+, // opuf mbd1 pg dpotu efdmbsbukpo
7
81 dpvu ?? + + ipvs AA 3 ipvs AA 45 , D 45 = ipvs ( 45 ,
82 ?? #=# ?? tfugkmm+ 3 , ?? tfu!+ 5 , ?? nkovuf
83 ?? #=# ?? tfu!+ 5 , ?? tfdpoe ?? + ipvs ? 45 D # ET# = # YT# ,>
84 // foe gvodukpo rskouauboebse

```

Mp; zm5427 q'iv-q-m̄ -[w \knf wj mk-² vvw ldpotu wj mk- !blf]r ,tqmA- ivl
 dpotu wj mk-oppo ,tq mB-2c pmxzwozi u i-nm x-² -wq? ws nvw ldpotu u nm j nā n vk-qw'
 tfuMpvS ,tq m57- ivl rskouauboebse ,tq m64- ww -pmdpotu wj mk-oppo2Pv nīkp ki'n0
 -pmkwu xq nā onw nāi-m̄ iv nāzwz u m'i on2 c pmxzwozi u it'w q; 'zi-m̄ -pm-pznmw-pnā
 u nm j nā n vk-qw lki tt kwu j q'i-qw' ww wj mk-² i vvw ldpotu u nm j nā n vk-qw ww i
 vvw ldpotu wj mk- ,tq m55-0i dpotu u nm j nā n vk-qw ww i vvw ldpotu wj mk- ,tq m59- ivl
 i dpotu u nm j nā n vk-qw ww i dpotu wj mk- ,tq m 5A 5B-2c pmnāzwz u m'i on2 onw nāi-nh
 nāw vvw ldpotu u nm j nā n vk-qw' kīttnh ww i dpotu wj mk- izm'pw[v q -pmw; -x; -
 [q] w[2

```

2 // Ikh. 43.6= gkh43~36.drr
3 // Euufnrukoh up bddftt b dpotu pc fdu !kui opo2dpotu nfncfs gvodukpot.
4 %kodmvef #\knf.i# // kodmvef \knf dmbtt efgkokukpo
5
6 kou nbko+,
7
8 \knf !blf]r+ 91 781 3 ,> // opo2dpotubou pc fdu
9 dpotu \knf oppo+ 451 31 3 ,> // dpotubou pc fdu

21 // XFOHL\      THTFHS I]UL\NXU
22 !blf]r.tfuMpvS+ 4; ,> // opo2dpotu      opo2dpotu
23
24 oppo.tfuMpvS+ 45 ,> // dpotu      opo2dpotu
25
26 !blf]r.hfuMpvS+,> // opo2dpotu      dpotu
27
28 oppo.hfuTkovuf+,> // dpotu      dpotu
29 oppo.rskou]okwfstbm+,> // dpotu      dpotu
2
31 oppo.rskouauboebse+,> // dpotu      opo2dpotu
32 // foe nbko

```

p w y u z p y ' k s b b u v p s n u n a u n a u n y k o r y

```

L={drriur:~f bnrmtf{di43{Ikh43~34~36{gkh43~36.drr+46, = fssps L5995=
  \knf==tfuMpvS = dboopu dpowfsu uikt rpkoufs gspn dpotu \knf up
  \knf )
  Lpowfstkpo mptft vbmkgkfst
L={drriur:~f bnrmtf{di43{Ikh43~34~36{gkh43~36.drr+53, = fssps L5995=
  \knf==rskouauboebse = dboopu dpowfsu uikt rpkoufs gspn dpotu \knf up
  \knf )
  Lpowfstkpo mptft vbmkgkfst

```

Ti b b u v p s n u n a u n a u n y k o r y

```

gkh43~36.drr=46= fssps= rbttkoh dpotu \knf bt uikt bshvnfou pg
wpke \knf==tfuMpvS+kou, ektdbset vbmkgkfst
gkh43~36.drr=53= fssps= rbttkoh dpotu \knf bt uikt bshvnfou pg
wpke \knf==rskouauboebse+, ektdbset vbmkgkfst

```


E kw'-z; k-wz u; ' -j mi vvw ldpotu u nu j na n vk-qw ,Mp254260tqm 55 58-0j; -q ki v ' -qt j m' nh -wq q q t q' ni dpotu wj mk- ,Mp254270tqm B-2c pm\knf kw'-z; k-wz-l nml q q q w ,Mp254260tqm 55 58- 'pw[' -pi-q ki t' i v w-pra vvw ldpotu u nu j na n vk-qw tfu\knf ,tqm 5A 66- -wx n n wzu -pmq q q t q' i -qw wni \knf wj mk-2Pv?ws q o i v w l dpotu u nu j na n vk-qw n wu -pmkw'-z; k-wz ki t i' x i z- w n -pmq q q t q' i -qw wni dpotu wj mk- q i t w[nh 2c pm dpotuv m' wni dpotu wj mk- q n n w z k n h n w u -p m -q i m -p m k w l ' -z; k-wz kwu x t m n q q q t q' i -qw w n -p m w j m k -; v -q -p i -w j m k -l m -z; k-wz q ki t n h 2

Et'w0tqm 64 q Mp25427 o m n i -m i k w u x q i -q w n a z w z n n w -p w; o p u n u j n a n v k -q w r s k o u a u b o e b s e w n k i ' ' \k n f l w n v w -u w l q i ' -p m w j m k -w [p d p q -q ? w s n h 2 c p m r i k - -p i -i u n u j n a n v k -q w l w n v w -u w l q i ' i v w j m k -q v w -; m d q w -w q l d i -m -p i -p m n v k -q w q k w ' -i v -n v k -q w -p m n v k -q w u ; ' -n u s p p s + j m l n k i z n h d p o t u 2

aolulcl lo c 1Dvy I cu z i i lw c z i i aolulcl i

c p m x z w o z i u w n M p ' 2 5 4 2 8 5 4 2 q -z w l ; k n ; ' q o — — t - y y s y - s 2 E t t l i - i u n u j n a ' k t j m q q q t q' n h ; ' q o u n u j n a q q q t q' n a ' " v - i] 0 j ; - d p o t u l i - i u n u j n a ' i v l l i - i u n u j n a ' - p i - i z n z n n n n k n ' ' j z j m q q q t q' n h ; ' q o u n u j n a q q q t q' n a ' 2 S i - n a q - p q k p i x - n a 0 [n e t - n m - p i - u n u j n a w j m k - u ; ' - j m q q q t q' n h - p q [i " i ' [n n 2

```

2 // Ikh. 43.7= Nodsfnfou.i
3 // Gfgkokukpo pg dmbtt Nodsfnfou.
4 %kgoefg NULSHTHU\~M
5 %efgkof NULSHTHU\~M
6
7 dmbtt Nodsfnfou
8
9 rvcmkd=
    Nodsfnfou+ kou d A 31 kou k A 4 ,> // efgbvmu dpotusvdups
21
22 // gvodukpo beeNodsfnfou efgkokukpo
23 wpke beeNodsfnfou+,
24
25 dpvou 0A kodsfnfou>
26 // foe gvodukpo beeNodsfnfou
27
28 wpke rskou+, dpotu> // rskout dpvou boe kodsfnfou
29 rskwbuf=
2 kou dpvou>
31 dpotu kou kodsfnfou> // dpotu ebub nfncfs
32 > // foe dmbtt Nodsfnfou
33
34 %foekg

```

s I Uj Nodsfnfou r-ø stu|xx+ r-+ o|x|v | -+.dpotu so o z t z p t dpvou o|s dpotu so o z t z p t kodsfnfou0

```

2 // Ikh. 43.8= Nodsfnfou.drr
3 // Tfnfcs2gvodukpo efgkokukpot gps dmbtt Nodsfnfou efnpotusbuf vtkoh b
4 // nfncfs kokukbmk fs up kokukbmk f b dpotubou pg b cvkmu2ko ebub u rf.

```

s I Uj d t z p t x|xx+ t ts -x|xx+ t o r-+ o| -u o p x- x| s o o t 0(f o 3 -u 4 0)

```

5 %kodmvef ?kptusfbnB
6 %kodmvef #Nodsfnfou.i# // kodmvef efgkokukpo pg dmbtt Nodsfnfou
7 vtkoh obnftrbdf tue>
8
9 // dpotusvdups
Nodsfnfou==Nodsfnfou+ kou d1 kou k ,
21 = dpvou+ d ,1 // kokukbmk fs gps opo2dpotu nfncfs
22 kodsfnfou+ k , // sf vksfe kokukbmk fs gps dpotu nfncfs
23
24 // fnru cpe
25 // foe dpotusvdups Nodsfnfou
26
27 // rskou dpvou boe kodsfnfou wbmvt
28 wpke Nodsfnfou==rskou+ , dpotu
29
2 dpvu ?? #dpvou A # ?? dpvou ?? #1 kodsfnfou A # ?? kodsfnfou ?? foem>
31 // foe gvodukpo rskou

```

sr l u d tz pt x|xxxt ts -x|xxxt or-| o| -uop x-x| soo t0(fo 4 -u40)

```

2 // Ikh. 43.9= gkh43~39.drr
3 // Ysphsbn up uftu dmbtt Nodsfnfou.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Nodsfnfou.i# // kodmvef efgkokukpo pg dmbtt Nodsfnfou
6 vtkoh obnftrbdf tue>
7
8 kou nbko+ ,
9
Nodsfnfou wbmvt+ 431 8 ,>
21
22 dpvu ?? #Ffgpsf kodsfnfoukoh= #>
23 wbmvt.rskou+ ,>
24
25 gps + kou A 4> ?A 6> 00 ,
26
27 wbmvt.beeNodsfnfou+ ,>
28 dpvu ?? #Egufs kodsfnfou # ?? ?? #=>
29 wbmvt.rskou+ ,>
2 // foe gps
31 // foe nbko

```

Ffgpsf kodsfnfoukoh= dpvou A 431 kodsfnfou A 8
 Egufs kodsfnfou 4= dpvou A 481 kodsfnfou A 8
 Egufs kodsfnfou 5= dpvou A 531 kodsfnfou A 8
 Egufs kodsfnfou 6= dpvou A 581 kodsfnfou A 8

sr l u b| -x|v o| Nodsfnfou -pyr rskou o|s beeNodsfnfou z tz pt u |r x-| 0

c pmkw'-z; k-wz l nny q-qw , Mp254290 t q m' C 58- ; 'm i —t- y yys y- y -wq q l
 -q t q mkt i'' Nodsfnfou—l i-i u n n j n' v w l d p o t u q -n o n a d p v o u i v l d p o t u q -n o n a
 k o d s f n f o u , l n k t i z n h q t q m' 5 C 6 4 w n M p 2 5 4 2 8 - 2 T n n j n a q q q t q n' i x x n i z j n h n n y i
 k w ' - z ; k - w z - x i z i u n n a t q - i v l - p m t n n - j z i k m - p i - j n o q ' - p m k w ' - z ; k - w z - j w l " 2 c p m

u nu j na q q q t q na t q -, Mp25420tq m 54 55- q ' na i zi -nh nzwu -pmxi zi u na na t q -[qp i kwtw ,=-2Li kp u nu j na q q q t q na kw ' q -' wn-pml i -i u nu j na vi u mntw[nh j " xi z n l -p m m k w -i q q o -p m u nu j na -q q q t ? i t; n2lv -p q n i u x t n d p v o u q q q q t q nh [qp -p m ? i t; mwnkw ' -z; k-vz xi zi u na na d i v l k o d s f n f o u q q q q t q nh [qp -p m ? i t; mwnkw ' -z; k-vz xi zi u na na k2T; t-q t m u nu j na q q q t q na ' i z m na i zi -nh j " kw u i ' 2Et w0-p m u nu j na q q q -q t q na t q -n j n k; -m j n m w m -p m j w l " wn-p m k w ' -z; k-vz n j n k; -m2



d(03 l-p wr swpp-sw m p-2l 0x wUQh

t b c u n z k t t u z n u l p p n l + k y p o t n z y u p z ' y z n p t p z k s p n l c n t k l k z k n m v u k s k y p y l n s k u n l t b c, k n m u p t p z k s p n u ' y z n ' y n l z u v u u (p l n z n u t y z u z u u) p z z n p t p z k s (k s ' n u z n l k z k n n u u u k t u n z u z n s k y y c n y k n p y z u n u u u u u u u n y c

p sois tn Dui ulo w a o l d e n l i c 1Dvy I c w z i i l v c o D t t l o i o v
c p m k z w o z i u w n M p ' 2542A 54C q t; ' -z i -m -p m k w u x q i -q w n z w z ' k i; ' n h j " i -n u x -q o -w q q q t q m d p o t u l i -i u n u j n a k o d s f n f o u [q p i v i ' ' q v u n -' -i -n u n -, M p 2542B0tq m 56- q -p m N o d s f n f o u k w ' -z; k -v z -j w l " z i -p n a -p i v [q p i u n u j n a q q q t q na 2S q m 55 w n M p 2542B1 w n v w -o n n a i -m i k w u x q i -q w n z w z 0 j n k i; ' m d p v o u q v w -l n k i z n h d p o t u 2



P(v v (wb-(r-l v v sw --(- UQ

T u z v u u (p l p t o k n m u p t p z k s p n u u u k t b c l k z k n m u p y k u v p s k z p u t n u u u u



d(03 l-p wr swpp-sw m p-2l 0x wUQj

u t y z k t z l k z k n n u y M t b c u n z y k t l t b c (k u p k s n y V k t l l k z k n n u y l n s k u n l k y u n u u u n y ' y z n p t p z k s p n l) p z n m u p t p z k s p n u y + t z k k y p o t n z y u u z n y n z -v y n y l k z k p t z n u t y z u z u u u l + k u n t u z k s s u) n l c

```
2 // Ikh. 43.:= Nodsfnfou.i
3 // Gfgkokukpo pg dmbtt Nodsfnfou.
4 %kgoefg NULSHTHU\~M
5 %efgkof NULSHTHU\~M
6
7 dmbtt Nodsfnfou
8
9 rvcmkd=
   Nodsfnfou+ kou d A 31 kou k A 4 ,> // efgbvmu dpotusvdups
21
22 // gvodukpo beeNodsfnfou efgkokukpo
23 wpke beeNodsfnfou+,
24
25 dpvou 0A kodsfnfou>
26 // foe gvodukpo beeNodsfnfou
27
28 wpke rskou+, dpotu> // rskout dpvou boe kodsfnfou
29 rskwbuf=
2 kou dpvou>
```

5 I UQ Nodsfnfou r-0 stu|x x+| r-| o|x|v |+-|.dpotu so o z t z pt dpvou o|s dpotu
so o z t z pt kodsfnfou0(f o 3 -u40)

```

31      dpotu kou kodsfnfou> // dpotu ebub nfncfs
32    > // foe dmbtt Nodsfnfou
33
34    %foekg

```

```

srlua      Nodsfnfou r-ø stu|xx| r-| ox|x|v |-.dpotu so o z tz pt dpvou o|s dpotu
so o z tz pt kodsfnfou0(fo 4 -u40)

```

```

2  // Ikh. 43.:= Nodsfnfou.drr
3  // Hsspofpvt buufnru up kokukbm k f b dpotubou pg b cvkmu2ko ebub
4  // u rf c bttkhonfou.
5  %kodmvef ?kptusfbnB
6  %kodmvef #Nodsfnfou.i# // kodmvef efgkokukpo pg dmbtt Nodsfnfou
7  vtkoh obnftrbdf tue>
8
9  // dpotusvdups> dpotubou nfncfs kodsfnfou kt opu kokukbm fe
Nodsfnfou==Nodsfnfou+ kou d1 kou k ,
21
22      dpvou A d> // bmmpl!fe cfdbvtf dpvou kt opu dpotubou
23      kodsfnfou A k> // HSSXS= Lboopu npekg b dpotu pc fdu
24      // foe dpotusvdups Nodsfnfou
25
26  // rskou dpvou boe kodsfnfou wbmvt
27  wpke Nodsfnfou==rskou+, dpotu
28
29      dpvu ?? #dpvou A # ?? dpvou ?? #1 kodsfnfou A # ?? kodsfnfou ?? foem>
2  // foe gvodukpo rskou

```

```

srlua      T -|t- o tz -x|xxxtor-| o| -uop x-x| so o t p o w|z t| 0

```

```

2  // Ikh. 43.<= gkh43~3<.drr
3  // Ysphsbn up uftu dmbtt Nodsfnfou.
4  %kodmvef ?kptusfbnB
5  %kodmvef #Nodsfnfou.i# // kodmvef efgkokukpo pg dmbtt Nodsfnfou
6  vtkoh obnftrbdf tue>
7
8  kou nbko+,
9
      Nodsfnfou wbmvf+ 431 8 ,>
21
22      dpvu ?? #Ffgpsf kodsfnfoukoh= #>
23      wbmvf.rskou+,>
24
25      gps + kou A 4> ?A 6> 00 ,
26
27      wbmvf.beeNodsfnfou+,>
28      dpvu ?? #Egufs kodsfnfou # ?? ?? #=>
29      wbmvf.rskou+,>
2  // foe gps
31  // foe nbko

```

```

srlua      f -v oz -t r-ø Nodsfnfou vt|t ot r-z xøx|t -0(fo 3 -u40)

```

prawy z py'ks bb u vpsnuuauu nykory

```
L={drriur:~f bnrmt{di43{Ikh43~3:~3<{Nodsfnfou.drr+43, = fssps L5:8;=
  Nodsfnfou==kodsfnfou = nvtu cf kokukbmk fe ko dpotusvdups cbtf/nfncfs
  kokukbmk fs mktu
  L={drriur:~f bnrmt{di43{Ikh43~3:~3<{kodsfnfou.i+53, = tff
  efdmbsbukpo pg Nodsfnfou==kodsfnfou
L={drriur:~f bnrmt{di43{Ikh43~3:~3<{Nodsfnfou.drr+45, = fssps L5499=
  m2wbmvf trfdkgkft dpotu pc fdu
```

Ti bb u vpsnuuauu nykory

```
Nodsfnfou.drr=<= fssps= vokokukbmk fe nfncfs Nodsfnfou==kodsfnfou !kui
  dpotu u rf dpotu kou
Nodsfnfou.drr=45= fssps= bttkhonfou pg sfbe2pom ebub2nfncfs
  Nodsfnfou==kodsfnfou
```

sl U f -v oz -t r-ø Nodsfnfou vt|t ot r-z xøx-|t -0(fo 4-u40)

Mvk-qw rskou, Mp254B0qym 5: 5G q l nkti znh dpotu2P-u qpp-'nmu '-zivom-w
tij m-pq n vk-qw dpotu0j nki; 'mi xzwozi u xzwj i j t' [qt v n n pi?mi dpotu Nodsfnfou
wj m-k-2Ow[n n n 0q-'xw' q tm-pi-i xzwozi u [qt pi?mi dpotu z n n n km-wiv Nodsfnfou
wj m-k-wz i xwq-n -w dpotu -pi-xwq-' -wiv Nodsfnfou wj m-k-2c "xq i t t" 0-pq wks; z'
[p n wj m-k-' w n kti" Nodsfnfou izmxi" n n -w n vk-qw' wz z n n; z v n n n w u n vk-qw' 2Rv
-p m n kti' m 0 w t " kti" Nodsfnfou -dpotu u n n j n n vk-qw' ki v j mki t n n -p z w; op -p n z n n l
n n n k n w x w q -n 2 c p; '0 q -z n n' w i j t m -w l n kti z n n vk-qw rskou i' dpotu l w q o 'w x z n l
? n -' n a z w' q -p m n m q; i -q w' [p n a m i v Nodsfnfou wj m-k-q -z n n -n n i' i dpotu wj m-k-2



--(-G-p2pw0s(we s) U U U

*Dn skunky t bc kss u k skyy n n w' t z p u t y z k z l u t u z u l p + z n u n z p t) p
z n + w n u k z n U k y p u t k s s + z p y k + y m p t k u v u u u p k z n n k' y n + u' G k (n t u p t z n t z p u t
u w k z p t o t b c u n z y u z k z s k y y u u k n y p t o u n z y u z k z s k y y z u i' o t b c u n -
n w n t n y u u v u p t z n g z u t b c c D n s k u p t o y' n n w' t z p u t y t b c l u n y u n u k n t n p z
z u' o c N z n n n w' t z p u t p y p t k l (n e z t z s +) u p z z t z u u l p + z n u n z z n u v p s n u
) p s p y' n k t n a u u u n y k o r e*

U U h P (v) (. s o s (w m p n 0 . l . p v m p - . (P u . . p .

Ev EmbsnLmpd1 wj m-k-v n n h' -w s v w [[p n w q -' ; x x w' n h -w' w; v l q' i t i z u 0' w [p " v w -
q k t; l m i \ k n f wj m-k-i' i u n n j n a w n -p n t E m b s n L m p d 1 k t i " b; k p i k i x i j q q " q k i t t n h u —
y y i v l q' w u n a q i m z n n a z n h -w i' i c t l d - s y x y i k t i " k i v p i ? n w j m-k-' w n
w -p n a k t i " m i' u n n j n a' 2



d(03 l -p w r s w p p - s w m p - 2 l 0 s (w U U

*u u t u u u y u z k u n u i' y k p p z + p y u v u p z p u t , p t) p k s k y y k y u n z y u u z n u
s k y y n y k y n m g c*

f p n w i v wj m-k-q k z n n -n h 0 q' k w -' z; k -w z q k i t t n h i; -w u i -q i t t " 2 W n n q w; ' t " 0 [m i' [p w [-w x i " i z o; u n -' -w -p m k w -' z; k -w z w n i v wj m-k- [m k z n n -n h q y n b k o 2 c p q' n k -q w
' p w [' p w [i v wj m-k-' k w -' z; k -w z k i v x i " i z o; u n -' -w u n n j n a l w j m-k- k w -' z; k -w z' ? q
u n n j n a q q -q t q' n a' 2



d(03 l-p wr swpp-swr m p-2l 05(wUQI

n nuu n zy kun ut yzu zrl pt z n uubnu pt) p z n+Gm ln skwul pt z n skyy
l npt ppat Muz pt z n uubnuz m+Gmspyzrl pt z n ut yzu zuob n nupt pzksp nuspyzVkt l
n uunz npunt suyt o skyyu n zy Mu n p ny kssrl stvs ientVkun ut yzu zrl c

c pmvnh-xzwozi u ; 'm kti'' m Gbuf ,Mp'254254 54255- ivl Hnrmpp ff ,Mp'254256
54257- -wl nm w'-zi-mkwu xw'q-qw2 Hti'' Hnrmpp ff-l nm q-qw ,Mp254256- kw-i q'
rskwbufli-i u nm j nā' gkstuUbnf0mbtuUbnf0cksuiGbufivl iksfGbuf2T nm j nā' cksui2
Gbufivl iksfGbufizmdpota wj mk'-wnki'' Gbuf, [p d p kw-i q' rskwbufli-i u nm j nā'
npoui0eb ivl fbs2c pmHnrmpp ff kw'-z; k-wz'-pnal nā ,Mp2542570tqm 54 55- 'xnkql
nqñ-pi-pmkw'-z; k-wz pi' nā; zxizi u nānā' ,gkstu0mbtu0ebufXgFksui ivl ebufXgMksf-2
c pmnā' -[wxizi u nānā' izmxi'' nh ? q u nm j nā q q q tq nā' -w-pmtuskoh kti'' kw'-z; k-wz2
c pmti' -[wizmxi'' nh ? q u nm j nā q q q tq nā' -w-pmGbuf kti'' kw'-z; k-wz2

```
2 // Ikh. 43.43= Gbuf.i
3 // Gbuf dmbtt efgkokukpo> Tfncfs gvodukpot efgkofe ko Gbuf.drr
4 %kgoefg GE\H~M
5 %efgkof GE\H~M
6
7 dmbtt Gbuf
8
9 rvcmkd=
   tubukd dpotu kou npouitYfsxfbs A 45> // ovncfs pg npouit ko b fbs
21 Gbuf+ kou A 41 kou A 41 kou A 4<33 ,> // efgbvmu dpotusvdups
22 wpke rskou+, dpotu> // rskou ebuf ko npoui/eb / fbs gpsnbu
23 Gbuf+,> // rspwkfe up dpogksn eftusvdukpo psefs
24 rskwbuf=
25 kou npoui> // 4245 +0bovbs 2Gdfncfs,
26 kou eb > // 4264 cbtfe po npoui
27 kou fbs> // bo fbs
28
29 // vukmku gvodukpo up difdl kg eb kt rsprfs gps npoui boe fbs
   kou difdlGb + kou , dpotu>
31 > // foe dmbtt Gbuf
32
33 %foekg
```

sr I UUB Gbuf r-0 stu|xx|0

```
2 // Ikh. 43.44= Gbuf.drr
3 // Gbuf dmbtt nfncfs2gvodukpo efgkokukpot.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Gbuf.i# // kodmvef Gbuf dmbtt efgkokukpo
6 vtkoh obnftrbdf tue>
7
8 // dpotusvdups dpogksnt rsprfs wbmvf gps npoui> dbmmt
9 // vukmku gvodukpo difdlGb up dpogksn rsprfs wbmvf gps eb
```

sr I UUB Gbuf r-0 z tz pt .u |r x| stu|xx| 0(f0 3 -u40)

```

Gbuf==Gbuf+ kou no1 kou e 1 kou s ,
21
22 kg + no B 3 )) no ?A npouitYfsxfbs , // wbmkebuf uif npoui
23 npoui A no>
24 fmtf
25
26 npoui A 4> // kowbmke npoui tfu up 4
27 dpvu ?? #Nowbmke npoui +# ?? no ?? #, tfu up 4.{o#>
28 // foe fmtf
29
2 fbs A s> // dpvme wbmkebuf s
31 eb A difd1Gb + e ,> // wbmkebuf uif eb
32
33 // pvurvu Gbuf pc fdu up tip! !ifo kut dpotusvdups kt dbmmfe
34 dpvu ?? #Gbuf pc fdu dpotusvdups gps ebuf #>
35 rskou+,>
36 dpvu ?? foem>
37 // foe Gbuf dpotusvdups
38
39 // rskou Gbuf pc fdu ko gpsn npoui/eb / fbs
3 wpke Gbuf==rskou+, dpotu
41
42 dpvu ?? npoui ?? / ?? eb ?? / ?? fbs>
43 // foe gvodukpo rskou
44
45 // pvurvu Gbuf pc fdu up tip! !ifo kut eftusvdups kt dbmmfe
46 Gbuf== Gbuf+,
47
48 dpvu ?? #Gbuf pc fdu eftusvdups gps ebuf #>
49 rskou+,>
4 dpvu ?? foem>
51 // foe Gbuf eftusvdups
52
53 // vukmku gvodukpo up dpogksn rsprfs eb wbmvf cbtfe po
54 // npoui boe fbs> iboemft mfbr fbst1 upp
55 kou Gbuf==difd1Gb + kou uftuGb , dpotu
56
57 tubukd dpotu kou eb tYfsTpouiz npouitYfsxfbs 0 4 | A
58 31 641 5;1 641 631 641 631 641 641 631 641 631 64 >
59
5 // efufsnkof !ifuifs uftuGb kt wbmke gps trfdkgkfe npoui
61 kg + uftuGb B 3 )) uftuGb ?A eb tYfsTpouiz npoui | ,
62 sfuvso uftuGb >
63
64 // Ifcsvgbs 5< difd1 gps mfbr fbs
65 kg + npoui AA 5 )) uftuGb AA 5< )) + fbs ( 733 AA 3
66 + fbs ( 7 AA 3 )) fbs ( 433 "A 3 , , ,
67 sfuvso uftuGb >
68
69 dpvu ?? #Nowbmke eb +# ?? uftuGb ?? #, tfu up 4.{o#>
6 sfuvso 4> // mfbwf pc fdu ko dpotktufou tubuf kg cbe wbmvf
71 // foe gvodukpo difd1Gb

```

```

2 // Ikh. 43.45= Hnrmpp ff.i
3 // Hnrmpp ff dmbtt efgkokukpo tip!koh dprnrptkukpo.
4 // Tfncfs gvodukpot efgkofe ko Hnrmpp ff.drr.
5 %kgoefg HTYRXxHH~M
6 %efgkof HTYRXxHH~M
7
8 %kodmvef ?tuskohB
9 %kodmvef #Gbuf.i# // kodmvef Gbuf dmbtt efgkokukpo
   vtkoh obnftrbdf tue>
21
22 dmbtt Hnrmpp ff
23
24 rvcmkd=
25   Hnrmpp ff+ dpotu tuskoh )1 dpotu tuskoh )1
26   dpotu Gbuf )1 dpotu Gbuf ) ,>
27   wpke rskou+, dpotu>
28   Hnrmpp ff+,> // rspwkefe up dpogksn eftusvdukpo psefs
29 rskwbuf=
30   tuskoh gkstuUbnf> // dprnrptkukpo= nfncfs pc fdu
31   tuskoh mbtuUbnf> // dprnrptkukpo= nfncfs pc fdu
32   dpotu Gbuf cksuiGbuf> // dprnrptkukpo= nfncfs pc fdu
33   dpotu Gbuf iksfGbuf> // dprnrptkukpo= nfncfs pc fdu
34   > // foe dmbtt Hnrmpp ff
35
36 %foekg

```

sr I UuU Hnrmpp ffr-ø stux|xx-| w-x|vr-z -xx-|0

```

2 // Ikh. 43.46= Hnrmpp ff.drr
3 // Hnrmpp ff dmbtt nfncfs2gvodukpo efgkokukpot.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Hnrmpp ff.i# // Hnrmpp ff dmbtt efgkokukpo
6 %kodmvef #Gbuf.i# // Gbuf dmbtt efgkokukpo
7 vtkoh obnftrbdf tue>
8
9 // dpotusvdups vtft nfncfs kokukbmk fs mktu up rbtt kokukbmk fs
   // wbmvtft up dpotusvdupst pg nfncfs pc fdut
21 Hnrmpp ff==Hnrmpp ff+ dpotu tuskoh )gkstu1 dpotu tuskoh )mbtu1
22   dpotu Gbuf )ebufXgFksui1 dpotu Gbuf )ebufXgMksf ,
23   = gkstuUbnf+ gkstu ,1 // kokukbmk f gkstuUbnf
24   mbtuUbnf+ mbtu ,1 // kokukbmk f mbtuUbnf
25   cksuiGbuf+ ebufXgFksui ,1 // kokukbmk f cksuiGbuf
26   iksfGbuf+ ebufXgMksf , // kokukbmk f iksfGbuf
27
28 // pvurvu Hnrmpp ff pc fdu up tip! !ifo dpotusvdups kt dbmmfe
29 dpvu ?? #Hnrmpp ff pc fdu dpotusvdups= #
30   ?? gkstuUbnf ?? ?? mbtuUbnf ?? foem>
31 // foe Hnrmpp ff dpotusvdups
32

```

sr I UuU Hnrmpp ffr-ø ztz pt .u |r x-|stux|xx-| -x|r-sx|vr-| r - xwoz tz pt
 x|xx-x t -x 0(fo 3 -u40)


```

33 // rskou Hnrmpp ff pc fdu
34 wpke Hnrmpp ff==rskou+, dpotu
35
36 dpvu ?? mbtuUbnf ?? #1 # ?? gkstuUbnf ?? # Mksfe= #>
37 iksfGbuf.rskou+,>
38 dpvu ?? # Fksuieb = #>
39 cksuiGbuf.rskou+,>
3 dpvu ?? foem>
41 // foe gvodukpo rskou
42
43 // pvurvuv Hnrmpp ff pc fdu up tip! !ifo kut eftusvdups kt dbmmfe
44 Hnrmpp ff== Hnrmpp ff+,
45
46 dpvu ?? #Hnrmpp ff pc fdu eftusvdups= #
47 ?? mbtuUbnf ?? #1 # ?? gkstuUbnf ?? foem>
48 // foe Hnrmpp ff eftusvdups

```

srI UUh Hnrmpp ffr-ø ztz pt .u |r x+|stux|xx+|-x|r-sx|vr+| r — xwoz tzt pt
x|xox+xt x 0(fø 4 -u40)

tEsD nn msotv eis Bz i i aolulcl i yltv

c pmkwtw ,=- nttw[qo -pmkw'-z; k-wz'-pniil na ,Mp254570tqm56- j nqy' -pmu nu j na
q q q t q' na t q' -2c pmu nu j na q q q t q' na' 'x n k q' -pn Hnrmpp ff kw'-z; k-wz xi zi u na' j nqy o
xi'' nh -w -pmkw'-z; k-wz' wn -pntuskoh ivl Gbuf li-i u nu j na' 2Wzi u na' gkstu0mbtu0
ebufXgFksui ivl ebufXgMksf izmxi'' nh -w -pmkw'-z; k-wz' nw wj mk'- gkstuUbnf'-
, Mp254570tqm56-0mbtuUbnf, Mp254570tqm57-0cksuiGbuf, Mp254570tqm58- ivl
iksfGbuf, Mp254570tqm59-0znixnk-q n' 2Eoi q 0u nu j na q q q t q' na' i zm' na xi zi -nh j "
kwu u i' 2

i n mtttBli c nms msotv eis

E' "w, ' -; l "kti" Gbuf, Mp25454-0vw-qm-pi--pmkti" l wn vw-xzw? q mi kw'-z; k-wz
-pi-znknq m i xizi u na' wn -"xmGbuf2bw0[p" ki v -pmHnrmpp ff kw'-z; k-wz'-u nu j na
q q q t q' na t q' -q q q t q' m -pmcksuiGbuf ivl iksfGbuf wj mk'- j "xi" qo Gbuf wj mk'-w
-pnq Gbuf kw'-z; k-wz' E' [mu n -qwnh q Hpi x-na 0 -pmkwu xqna xzw? q m' nkp kti''
[qp i l nmi; t-kwx "kw'-z; k-wz -pi-kwxqn nkp li-i u nu j na wn -pmkw'-z; k-wz'-i zo; l
u n -wj mk- q -w -pmkwzzn xwl qo u nu j na wn -pmwj mk- j nqy o q q q t q' nh 2Hpi x-na 55
l q k; '' m' pw["w, ki v l nmy mk; ' -wu q' nh kwx "kw'-z; k-wz' 2

itulo mtttit i n co tEsD nn

Mp; zm5458 kzn-m -[wGbuf wj mk'- , tqm C 54- ivl xi'' m' -pmu i' izo; u n -w -pm
kw'-z; k-wz wn -pmHnrmpp ff wj mk- kzn-nh q tqm552Sqm58 w; -x; ' -pmHnrmpp ff wj l
mk'-li-i 2f p n nkp Gbuf wj mk- q kzn-nh q tqm C 540 -pmGbuf kw'-z; k-wz l nmy nh
q tqm C 6: wn Mp25455 l qxti " i tqmwn w; -x; -w' pw[-pi -pmkw'-z; k-wz [i'
ki ttnh , ' n -pmnq' -[w tqm wn -pm' i u xtmw; -x; -2 Tuzn Sqm55 wn Mp25458 ki; ' m'
-[will q q w i t Gbuf kw'-z; k-wz ki t' -pi -l wvw-ixxniz q -pn xzwozi u ' w; -x; -2f p n n
nkp wn -pmHnrmpp ff'-Gbuf u nu j na wj mk'- q q q q t q' nh q -pmHnrmpp ff kw'-z; k-wz'-
u nu j na q q q t q' na t q' -, Mp254570tqm 58 59-0 -pml nmi; t-kwx "kw'-z; k-wz nw w kti''
Gbuf q ki ttnh 2bq km-pq kw'-z; k-wz q l nmy nh q i x t q q t " j " -pmkwu xqna 0 q -l wn vw-
kw-i q i v " w; -x; -' -i -n n -w' -wl nu w' -zi -m[p n n q' -ki ttnh 2

```

2 // Ikh. 43.47= gkh43~47.drr
3 // Gfnpotusbukoh dprptkukpo22bo pc fdu !kui nfncfs pc fdut.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Hnrmf ff.i# // Hnrmf ff dmbtt efgkokukpo
6 vtkoh obnfrbdf tue>
7
8 kou nbko+,
9
    Gbuf cksui+ :1 571 4<7< ,>
21 Gbuf iksf+ 61 451 4<; ,>
22 Hnrmf ff nbobhfs+ #Fpc#1 #Fmvf#1 cksui1 iksf ,>
23
24 dpvu ?? foem>
25 nbobhfs.rskou+,>
26
27 dpvu ?? #{o\ftu Gbuf dpotusvdups !kui kowbmke wbmvt={o#>
28 Gbuf mbtuGb Xgg+ 471 681 4<<7 ,> // kowbmke npoui boe eb
29 dpvu ?? foem>
2 // foe nbko

```

```

Gbuf pc fdu dpotusvdups gps ebuf :/57/4<7<
Gbuf pc fdu dpotusvdups gps ebuf 6/45/4<;
Hnrmf ff pc fdu dpotusvdups= Fpc Fmvf

```

```
Fmvf1 Fpc Mksfe= 6/45/4<; Fksuieb = :/57/4<7<
```

```

\ftu Gbuf dpotusvdups !kui kowbmke wbmvt=
Nowbmke npoui +47, tfu up 4.
Nowbmke eb +68, tfu up 4.
Gbuf pc fdu dpotusvdups gps ebuf 4/4/4<<7

```

```

Gbuf pc fdu eftusvdups gps ebuf 4/4/4<<7
Hnrmf ff pc fdu eftusvdups= Fmvf1 Fpc
Gbuf pc fdu eftusvdups gps ebuf 6/45/4<;
Gbuf pc fdu eftusvdups gps ebuf :/57/4<7<
Gbuf pc fdu eftusvdups gps ebuf 6/45/4<;
Gbuf pc fdu eftusvdups gps ebuf :/57/4<7<

```

```

i wt tot or o- u tr- r -
ro- wt | o| Hnrmf ff x
r- r ts -ro- -wt
tuskoh r- r- r-(x|t
34 35-u(03205)- -ro- -wt
Gbuf r- stw -r-
r- r-(x|t 3: 3A-u
(03205) o|s wt ro- -wt
Hnrmf ff r- r- r-0

```

si uq Ptz- o x|vr-z -xx- o| -p|r xwz tz pt -p|r 0

Hti'' Gbuf ivl kti'' Hnrmf ff nīkp q|kt; l mi l m-z; k-wz ,tq m 79 84 wn Mp254255
 ivl tq m 77 7A wn Mp2542570 z m x n k-q m -pi-xzq-' i u m'iom[p n i v w j m k-w n q-' kti''
 q l m-z; k-nh 2c p q n i j t n ; ' -w k w n q u q -p m x z w o z i u w ; -x; -pi-w j m k-' i z m k w l
 ' -z; k-nh n z w u -p m i' y l n u' z i v l l m-z w' n h q -p m z n n a' n w z l n a 0 n z w u -p m u' y l n p t , q n d -p m
 Gbuf u n i j n a w j m k-' i z m l m-z w' n h i n a -p n H n r m f f w j m k -p i -k w -i q' -p n i -2 U w -q m
 -p m i' -n w ; z t q m q -p m w ; -x; -w n Mp2542582 c p m i' -[w t q m i z m -p m w ; -x; -' w n -p n G b u f
 l m-z; k-wz z; v v q o w w G b u f w j m k-' i k s f , t q m 54- i v l c k s u i , t q m G 0 z m x n k-q m ' 2 c p m i m
 w ; -x; -' k w n q u -p i -p m -p z m w j m k-' k z m -n h q n b k o i z m l m-z; k-nh q -p m u' n a y n w n -p m
 w z l n a q [p d q p -p m [n a m k w ' -z; k-nh 2c p m H n r m f f l m-z; k-wz w ; -x; -q n q m t q m n z w u
 -p m j w -w u 2 c p m i w ; z -p i v l -p q l t q m n z w u -p m j w -w u w n -p m w ; -x; -[q l w l ' p w l -p m
 l m-z; k-wz' z; v v q o n z -p n H n r m f f -' u n i j n a w j m k-' i k s f G b u f , M p 2542560 t q m 66- i v l
 c k s u i G b u f , M p 2542560 t q m 65-2 c p m i m w ; -x; -' k w n q u -p i -p m H n r m f f w j m k- q
 l m-z; k-nh n z w u -p m u' y l n p t q n d -p n H n r m f f l m-z; k-wz z; v' n q' - , w ; -x; -' p w l v n q m

tq m'rwu -pmj w-wu wn-pmw; -x; -[q l w[-0-prw -pmu nu j na wj m'k' i zml m'-z; k-nh qy -pmw (mgn uab nvrw [p d p -pm [namkw'-z; k-nh 2 Hti'' tuskoh-1 m'-z; k-wz l wn vw kw-i qy w; -x; -'i-i-nu n'-0'w[ml wvw-'nm-pmgkstuUbnf i vl mbtuUbnf wj m'k' j nq o l m'-z; k-nh 2 Eoi q 0 Mp 254 258'-w; -x; -l d v w-'pw[-pmkw'-z; k-wz' z; v v q o n w u nu j na wj m'k' cksui Gbuf i vl iksf Gbuf 0 j nki; 'm-pm'wj m'k' [namq q q t q'nh [q p -pml nmi; t- Gbuf kti'' kw' -z; k-wz' xzw' d nh j " -pmkwu xqna2

cvuc iot io a l s sv ti v i z i i a o l u c n l i y l t u h

Phi u nu j na wj m'k'-q v w-q q q t q'nh -pzw; op i u nu j na q q q t q'na0-pmu nu j na wj m'k'-1 ni ri; t-kw'-z; k-wz [q t j mki t t h q i x t d q t "2 e i t; m'0 q i v "0 m'-i j t q p n h j " -pml nmi; t-kw l '-z; k-wz k i v j m w' n a z d l n j " j n z n v k-qw' 2 O w[n a n a 0 n w k w u x t n h q q q t q' i -q w 0 -p d i x x z w i k p u i " z n y; q m' q v q d i v -i l l q q w i t [w s i v l -q i n 2



P(v v (wb-(r-l v v swr --(- - Ua

u v p s k z u t n a u u u ' u p k n n u u n z p y t u z p t p z k s p n l) p z k n n u p t p z k s p n u k t l z n n n u u n z s k y l u n y t u z v u u (p l n k l n k' s z u t y a u z a u u y t r e ; z n n n u u - n z s k y l n p t n y u t n u u u u n u t y a u z a u g , ' z t u t n p y k l n k' s z u t y a u z a u d e



bp- (-v l w p e s) Uaf

N p z k s p n n n u u n z y n v s p p s + z u i ' o n n u p t p z k s p n o g c p y r s p p t k z n y z n u (n a n k l u l u' s + p t p z k s p p t o n n u u n z y u t n) n t z n n n u u n z s k l n k' s z u t y a u z a u p y k s s r l k t l k o k p t) n t ' n a ' t z p u t y k u n k s s r l p t z n u t y a u z a u u l + M a u s k z n u z u p t p z k s p n z n n n u u n z



d(03 l-p w r s w p p-swr m p-2 l 0 s w Ua

N k s k y n n u p y k t u n z u k t u z n u s k y , k r p t o z k z n n u u n z r l u n y t u z (p u s k z n z n n t k u y' s k z u t k t l p l p t o u z k z n n u u n z s k y . r i c o n n o g c B' z p e l u n y (p u s k z n z n n t k u y' s k z u t k t l p l p t o u z n u t z k p t p t o s k y G p v s n n t z k z u t , y u n n u u n z y u s k y z w n y u' s l y z s n . r i c o , s p r n k s s u z n u l k z k n n o g c

Uaj r i f h l w n s (w. l w o r i f h P u l . . p.

E r i f h E u y w n i k t i '' q l n m y n h w ; -d m-pi-k t i '' -' k w n 0 " m-pi' -p m z q p p -w i k k a n ' -p m w w l r v c m k d , i v l r v c m k d -u n u j n a ' w n -p m k t i '' 2 b -i v l i t w m n v k -q w ' 0 n a -q m k t i '' m' w z u n u j n a n v k -q w ' w n w -p m a k t i '' m' u i " j m l n k t i z n h -w j m i z q w l ' w n i v w -p m a k t i '' 2

d' q o g s k f o e n v k -q w ' k i v n e p i v k n x n a n w z u i v k n 2 c p d ' n k -q w x z m n -' i u n k p i v d i t n h i u x t m w p w [i g s k f o e n v k -q w [w s ' 2 S i -n a q -p m j w w s 0 g s k f o e n v k -q w ' i z n ; ' n h -w w n a t w i l w x n a i -w z ' n w ; ' m [q p k t i '' w j m k ' , H p i x -n a 55- i v l -w k z n i -m q n a i -w z k t i '' m' , H p i x -n a 640 I i -i b -z ; k ; z n -2 V j m k ' w n i v q n a i -w z k t i '' k i v ' ; k k m' q n a ' ' n a n k -q n u ' w z x n a n w z u i v w x n a i -q w w q n u ' q i k w -i q n a k t i '' w j m k -2 V j m k ' w n k w -i q n a k t i '' m' k i v ' -w m q n u ' 2 d ' q o n z q w l ' q w a n i x x z w x z q -m [p m i u n u j n a n v k -q w k i v v w -j m ; ' n h n w k n a -i q w x n a i -q w ' 0 i ' [n a t ' n m q H p i x -n a 552

c w l n k t i z m i n v k -q w i ' i n z q w l w n i k t i '' 0 x z n k n h m -p m n v k -q w x z w -w " x m q -p m k t i '' l n m y q q w [q p s m [w l g s k f o e 2 c w l n k t i z m i t t u n u j n a n v k -q w ' w n k t i '' L m b t t \ ! p i ' n z q w l ' w n k t i '' L m b t t X o f 0 x t i k m i l n k t i z i -q w w n -p m w z u

gskfoe dmbtt Lmbtt\!p>

q -pml n m y q q w w n k t i '' L m b t t X o f 2

**d(03 l-p wr swpp-sw r mp-2l 0x wUQI**

(nt z u' o z n vuvuzuvny uuv .ro 't zput ykvvrkupt z n skyylnpt pzput, upnt lykuntuz n nv't zput y

**d(03 l-p wr swpp-sw r mp-2l 0x wUQI**

n muk mytuzput yu .r ico, .tco co ktl r kuntuz wvsk(kt z zu .ro ln skuezput y, yu .ro ln skuezput y kt nusk nl kt +) monpt k skyylnpt pzput c

**((o b-(r-l v v sw r b-l n0np UQIU**

ask n kss upnt ly pu ln skuezput y puz pt ypl nz n skyylnpt pzput G ul + ktl l u tuz vuv nl n z n) pz kt + k myyvn p puv

Mqwl'pq q' ozi v-nh 0vw-is m qndmwz kti'' F-wj mi gskfoe wnkti'' E0kti'' E u ; '-mxtqqt' l nkti zm-pi-kti'' F q q' gskfoe2Et'w0-pm m qwl'pq zmi-qw q' vna p m z' "u u mzdq vwz -zi v' q q' m qndmwz kti'' E q i gskfoe wnkti'' F0ivl kti'' F q i gskfoe wnkti'' H0" w, ki vvw-q m m -pi-kti'' F q i gskfoe wnkti'' E, i oi q 0 m qwl'pq q' vw- "u l u mzdq-0-pi-kti'' H q i gskfoe wnkti'' F, i t'wj nki; m m qwl'pq q' vw- "u u mzdq-0vw -pi-kti'' E q i gskfoe wnkti'' H, m qwl'pq q' vw-zi v' q q' m2

**d(03 l-p wr swpp-sw r mp-2l 0x wUQU**

eu n vuvwsnpt z n UUA u 't pz+ m s z kz upnt ly pu uuv vzypt uuv k zput pl pt o ktl) nkrnt yz n (ks' n u z n u n z-upnt znl l nptot kuvvuk c N z pyzn z) n pl nt zp + ynd nukes n k vsny u z n nuyvut yp sn' ynu upnt ly pvc

z s l lo c m r t t B E f r i n l c w l v c q l i o q o e u l s o

Mp; zm54Z9 q' i u n k p i v d i t n i u x t m y [p d p [m l m y m g s k f o e n v k - q w t f u q - w ' m - p m r s k w b u f l i - i u m j n a w n k t i ' ' L p v o u 2 c p m g s k f o e l n k t i z i - q w , t q m G i x x n i z ' n y - , j " k w ? n v - q w - q - p m k t i ' ' l m y q - q w 0 n a n j m v z m r v c m k d u m j n a n v k - q w ' i z m l n k t i z n h 2 E o i q 0 - p q g s k f o e l n k t i z i - q w k i v i x x n i z i v " [p r a m y - p m k t i ' ' 2

```

2 // Ikh. 43.48= gkh43~48.drr
3 // Iskfoet dbo bddftt rskwbuf nfncfst pg b dmbtt.
4 %kodmvef ?kptusfbnB
5 vtkoh obnftrbdf tue>
6
7 // Lpvou dmbtt efgkokukpo
8 dmbtt Lpvou
9
   gskfoe wpke tfuq+ Lpvou )1 kou ,> // gskfoe efdmbsbukpo
21 rvcmkd=
22 // dpotusvdups
23 Lpvou+,
24 = + 3 , // kokukbm k f up 3
25
26 // fnru cpe
27 // foe dpotusvdups Lpvou
28
```

```

29 // pvurvu
2 wpke rskou+, dpotu
31
32 dpvu ?? ?? foem>
33 // foe gvodukpo rskou
34 rskwbuf=
35 kou > // ebug nfncfs
36 > // foe dmbtt Lpvou
37
38 // gvodukpo tfuq dbo npekg rskwbuf ebug pg Lpvou
39 // cfdbvtf tfuq kt efdmbsfe bt b gskfoe pg Lpvou +mkof <,
3 wpke tfuq+ Lpvou )d1 kou wbm ,
41
42 d. A wbm> // bmm!fe cfdbvtf tfuq kt b gskfoe pg Lpvou
43 // foe gvodukpo tfuq
44
45 kou nbko+,
46
47 Lpvou dpvoufs> // dsfbuf Lpvou pc fdu
48
49 dpvu ?? #dpvoufs. bgufs kotuboukbukpo= #>
4 dpvoufs.rskou+,>
51
52 tfuq+ dpvoufs1 ; ,> // tfu vtkoh b gskfoe gvodukpo
53 dpvu ?? #dpvoufs. bgufs dbmm up tfuq gskfoe gvodukpo= #>
54 dpvoufs.rskou+,>
55 // foe nbko

```

```

dpvoufs. bgufs kotuboukbukpo= 3
dpvoufs. bgufs dbmm up tfuq gskfoe gvodukpo= ;

```

sr l u u Iskfoe ro| orrt rskwbuf ztz pt -uor-o 0(fo 4 -u40)

M vk-qw tfuq ,tqm 6C 76- q i Hl'—“t0’-i vl li tw mn vk-qw q qv—i u n j n n vk-qw wnki” Lpvou2Mz-pq zni’w0[p m tfuq q q? w n n w v j m k-dpvoufs0tq m85 xi’’m dpvoufs i’ i v izo; u m—wtfuq zi-pnz-piv ; ’qo i pivl tm’; kp i’ -pmvi u mwn-pm wj m k— wki tt -pmn vk-qw0i’ q

```
dpvoufs.tfuq+ ; ,>
```

Rh“w; z m w m-pmzqwl l nkti zi-qw q tq m0“w; -t-znkq mrazwz u m’i om q l dki-qo -pi- n vk-qw tfuq ki vvw-u wl q’ kti” Lpvou—rskwbuf l i-i u n j n 2

E’ [mu m-qw n h 0Mp254259 q i u n k p i v d i t n h i u x t m w n ; ’qo -p m g s k f o e k w ’ -z ; k -2 P- [w d v w z u i t t “ j m i x x z w x z q -m -w l m q m n v k -q w t f u q i ’ i u n j n n v k -q w w n k i ” Lpvou2P- [w d i t w v w z u i t t “ j m i x x z w x z q -m -w ’ n x i z i -m -p m x z w o z i u w n M p 2 5 4 2 5 9 q -w -p z m m n q m D

1. E p n i l n a n q m , n a 2 D L p v o u . i - k w - i q q o - p m l p v o u k t i ’ ’ l m q q - q w 0 [p d q p q - z v k w - i q ’ - p m x z w - w “ x m w n g s k f o e n v k - q w t f u q
2. E v q i x t m m n - i - q w n q m , n a 2 D L p v o u . d r r - k w - i q q o - p m l m q q - q w ’ w n k i ’ ’ L p v o u — u n j n n v k - q w ’ i v l - p m l m q q - q w w n g s k f o e n v k - q w t f u q
3. E - m - x z w o z i u , n a 2 D g k h 4 3 ~ 4 8 . d r r - [q p n b k o 2

'i nc i frnmq oelst

P-xw' q tm-w' xnkq' w' nzwil nh n vk-qw' i' gskfoe' wni kti'' 2 Likp n vk-qw q-nl nh
-wj mi gskfoe u ; -j mnxtdq' l nktizh q' -pmkti'' l mxyq-qw i' i gskfoe wn-pmkti'' 2

U .sw 0 p or b(sw0p-

f m2m'nmv -pi-iv vj mk- u nu j na n vk-qw' kiv u ivq; ti-m-pmwj mk- l i-i 2 Ow[l w
u nu j na n vk-qw' svw[) p vj mk- l i-i u nu j na' -wu ivq; ti-m L? na' vj mk-pi' ikl
km' -wq' w[v ill zn' -pzw; op i xwqy-na ki ttnh **or** , i H. . sm[wzl -2c pmuikt xwqy-na
q t uz xiz-wn-pmwj mk- q' n n qh0-pmu nu wz' wks; xqh j " -pmuikt xwqy-na q vw-znl
rnk-nh q' -pnzn; t-wni tk fpg wxnzi-qw ww -pmwj mk-2a i-pm0-pmuikt xwqy-na q xi'' nh
, j " -pmkw xqna- i' iv q' xtdq-izo; u n- -wnkp wn-pmwj mk- -vw ltubukd u nu j na
n vk-qw' 2 bnk-qw 542 q-zw; km' tubukd ki'' u nu j na' ivl n xti q' [p " -pmuikt
xwqy-na q t uz q' xtdq' xi'' nh -wtubukd u nu j na n vk-qw' 2

Vj mk- ; 'm-pmuikt xwqy-na q' xtdq' , i' [m2nl wwm-w-pq xwqy- wz n xtdq' -w
zmnanvkm-pnq li-i u nu j na' ivl u nu j na n vk-qw' 2 c pm- " xmw n -pmuikt xwqy-na
l na nwl' ww -pm- " xmw n -pmwj mk-ivl [pmprn-pmu nu j na n vk-qw q' [p d p uikt q ; 'nh
q l nktizh dpotu 2 Mz n i u xtn0 q' i v wkw' -iv- u nu j na n vk-qw w nkti'' Hnrm p ff0-pm
uikt xwqy-na pi' - " x m Hnrm p ff - dpotu , i kw' -iv-xwqy-na -wi v wkw' -iv-Hnrm p ff
vj mk-2 Rv i kw' -iv- u nu j na n vk-qw wn-pmkti'' Hnrm p ff0-pmuikt xwqy-na pi' -pm
li-i - " x m d potu Hnrm p ff - dpotu , i kw' -iv-xwqy-na -wi kw' -iv-Hnrm p ff vj mk-2

c pmv n - n i u xtn' p w[' q' xtdq-ivl n xtdq' ; mwn-pmuikt xwqy-na ti-na q' -p q
kpix-na ivl q' Hp ix-na 550[m' p w['wu m' ; j -iv-q' t ivl ' ; j -tm n i u xtn vn ; ' q o uikt 2

a nelm co p nelm tlo v i pry slovi is Deeitt co ienBI cw z i i t

Mp; zm54Z: l nu w' -zi-m' -pmq' xtdq-ivl n xtdq' ; mwn-pmuikt xwqy-na -wn i j tmi
u nu j na n vk-qw w nkti'' \ftu -wxzq- -pmrskwbuf li-i wni \ftu vj mk-2

```

2 // Ikh. 43.49= gkh43~49.drr
3 // Jtkoh uif uikt rpkoufs up sfgfs up pc fdu nfncfst.
4 %kodmvef ?kptusfbnB
5 vtkoh obnftrbdf tue>
6
7 dmbtt \ftu
8
9 rvcmkd=
  \ftu+ kou A 3 ,> // efgbvmu dpotusvdups
21 wpke rskou+, dpotu>
22 rskwbuf=
23 kou >
24 > // foe dmbtt \ftu
25
26 // dpotusvdups
27 \ftu==\ftu+ kou wbmvf ,
28 = + wbmvf , // kokukbmk f up wbmvf
29
2 // fnru cpe
31 // foe dpotusvdups \ftu

```



```

32
33 // rskou   vtkoh knrmkdku boe f rmkdku uikt rpkoufst>
34 // uif rbsfouiftft bspvoe -uikt bsf sf vksfe
35 wpke \ftu==rskou+, dpotu
36
37 // knrmkdkum   vtf uif uikt rpkoufs up bddftt uif nfncfs
38 dpvu ?? #           A # ?? >
39
40 // f rmkdkum   vtf uif uikt rpkoufs boe uif bssp! prfsbups
41 // up bddftt uif nfncfs
42 dpvu ?? #{o   uikt2B   A # ?? uikt2B >
43
44 // f rmkdkum   vtf uif efsfgfsfodfe uikt rpkoufs boe
45 // uif epu prfsbups up bddftt uif nfncfs
46 dpvu ?? #{o+-uikt,.   A # ?? + -uikt ,.   ?? foem>
47 // foe gvodukpo rskou
48
49 kou nbko+,
50
51 \ftu uftuXc fdu+ 45 ,> // kotuboukbuf boe kokukbm k f uftuXc fdu
52
53 uftuXc fdu.rskou+,>
54 // foe nbko

```

```

      A 45
uikt2B  A 45
+-uikt,. A 45

```

SI UDU uikt ~~x~~ t xz ~~xx~~- o|s t ~~xx~~- orrt x|v o| ~~px~~r ztz pt 0(f o 4 -u40)

Mw q; 'zi-qw x; xw'm0u n j n n v k-qw rskou, t q m 68 7: - n q' - x z q' j " ; ' q o
- p m u i k t x w q - n q u x t q q t " , t q m 6 A - w t " - p m v i u m w n - p m l i - i u n j n q ' x n k q n h 2
c p m rskou ; ' m - [w l q m n n v - v w i - q w ' - w i k k n ' - p z w o p - p m u i k t x w q - n q - p n i z w [
w x n i - w z , 2 B - w n - p m u i k t x w q - n q , t q m 75 - i v l - p m l w - w x n i - w z , . - w n - p m l n n m n n k n h
u i k t x w q - n q , t q m 79 - 2 U w - m - p m x i z n w - p m m i z w ; v l - u i k t , t q m 79 - [p m ; ' n h [q p - p m
l w - u n j n ' n n k - q w w x n i - w z , . - 2 c p n x i z n w - p m m i z n n y ; q n h j n k i ; ' m - p m l w - w x n i - w z
p i ' p q p n z x z n k n n k m - p i v - p m - w x n i - w z 2 f q p w ; - p m x i z n w - p m m 0 - p m n x z n ' q w
- u i k t . [w ; d j m n i t i ; - n h i ' q q [n n m x i z n w - p m q ' n h i ' - + u i k t . , 0 [p q p q i k w u x q l
t i - q w n z w z 0 j n k i ; ' m - p m l w - w x n i - w z k i v v w - j m ; ' n h [q p i x w q - n q 2



$P(v \mid w) = \frac{P(v, w)}{P(w)}$

zen vzt o zu' jnz n n nuyrsn zput uwnkezuu(MV) pē k vupt znuvz kt u n zpyk u -
vpskzput moav z n l uz n nuyrsn zput uwnkezuu k+ n' jnl ut s+) pē kt tīt; my'
kykt u n zgt k n k uwnnot nzu kt u n znuv l moavnot nl vupt znuvz kt u n zc

Vvmq-rzm-qo; 'mwn-pmukt xwq-rz q' -wxzn-nv-iv wj mk-nzw j nyo i'' qvnh -w
q'nm2E' [~~mt~~ nmq Hpix-rz 550' nmli'' qvu nv-ki v ki; 'm' nzw; ' nzwz' [pnv -pmwj mk-
kw-iq' xwq-rz' -wl "viu dki tt" i ttvki-nh ' -wz on2

tló v i pry slóvi us poc ní mctec i q oeuśo mcnit

Evwpm; 'mwn-pmukt xwq-m q' -wmij tmus usv-v —t- E uy us -pi-q0q1
?wsqou; t-xtm vk-qw' q' -pm'iu m'-i-m m-,i' q' tqm56 wlm25425G2c pmkzwozi u

wnMp'25425A 5425Cu wl qm'kti'' \knf-~~z~~z n vk-qw' tfu\knf0tfuMps0tfuTkovuf ivl
 tfuafdpoe'; kp -pi-nikp zn; zv' i znmznmkn-wi \knf wj mk-wmij tuki'kil nh u nm j n1
 n vk-qw ki t'2Uw-dmq Mp25425B -pi-pmti'-'-i-nm nv-qy -pmj wl " wn nikp wn-pmm
 u nm j n1 n vk-qw' zn; zv' -uikt ,tqm 660607: ivl 87- qy-wi zn; zv -"xmw\knf)2

```

2 // Ikh. 43.4:= \knf.i
3 // Lbtbekoh nfncfs gvodukpo dbmmt.
4
5 // \knf dmbtt efgkokukpo.
6 // Tfncfs gvodukpot efgkofe ko \knf.drr.
7 %kgoefg \NTH~M
8 %efgkof \NTH~M
9
10 dmbtt \knf
11
12 rvcmd=
13 \knf+ kou A 31 kou A 31 kou A 3 ,> // efgbvmu dpotusvdups
14
15 // tfu gvodukpot +uif \knf ) sfuvso u rft fobcmf dbtdbekoh,
16 \knf )tfu\knf+ kou1 kou1 kou ,> // tfu ipvs1 nkovuf1 tfdpoe
17 \knf )tfuMps+ kou ,> // tfu ipvs
18 \knf )tfuTkovuf+ kou ,> // tfu nkovuf
19 \knf )tfuafdpoe+ kou ,> // tfu tfdpoe
20
21 // hfufu gvodukpot +opsnbmm efdmbsfe dpotu,
22 kou hfufuMps+, dpotu> // sfuvso ipvs
23 kou hfufuTkovuf+, dpotu> // sfuvso nkovuf
24 kou hfufuafdpoe+, dpotu> // sfuvso tfdpoe
25
26 // rskou gvodukpot +opsnbmm efdmbsfe dpotu,
27 wpke rskou]okwfstbm+, dpotu> // rskou vokwfstbm uknf
28 wpke rskouaubeobse+, dpotu> // rskou tubeobse uknf
29 rskwbuf=
30 kou ipvs> // 3 2 56 +572ipvs dmpdl gpsnbu,
31 kou nkovuf> // 3 2 8<
32 kou tfdpoe> // 3 2 8<
33 > // foe dmbtt \knf
34
35 %foekg

```

sr I UU \knf r-0 stu|xx+ z -sxuts -t|op t ro rosts z tz pt .u |r x+ ro-0

```

2 // Ikh. 43.4;= \knf.drr
3 // \knf dmbtt nfncfs2gvodukpo efgkokukpot.
4 %kodmvef ?kptusfbnB
5 %kodmvef ?kpnbokrB
6 %kodmvef #\knf.i# // \knf dmbtt efgkokukpo
7 vtkoh obnftrbdf tue>
8


```

sr I UU \knf r-0 z tz pt .u |r x+ stu|xx+ z -sxuts -t|op t ro rosts z tz pt .
 u |r x+ ro-0(fo 3 -u50)

```

9 // dpotusvdups gvodukpo up kokukbmk f rskwbuf ebub>
// dbmmt nfncfs gvodukpo tfu\knf up tfu wbskbcmt>
21 // efgbvmu wbmvt bsf 3 +tff dmbtt efgkokukpo,
22 \knf==\knf+ kou is1 kou nko1 kou tfd ,
23
24     tfu\knf+ is1 nko1 tfd ,>
25     // foe \knf dpotusvdups
26
27 // tfu wbmvt pg ipvs1 nkovuf1 boe tfdpoe
28 \knf )\knf==tfu\knf+ kou i1 kou n1 kou t , // opuf \knf ) sfuvso
29
2     tfuMpv+ i ,>
31     tfuTkovuf+ n ,>
32     tfuafdpoe+ t ,>
33     sfuvso -uikt> // fobcmft dbtdbekoh
34     // foe gvodukpo tfu\knf
35
36 // tfu ipvs wbmvt
37 \knf )\knf==tfuMpv+ kou i , // opuf \knf ) sfuvso
38
39     ipvs A + i BA 3 )) i ? 57 , D i = 3> // wbmkebuf ipvs
3     sfuvso -uikt> // fobcmft dbtdbekoh
41     // foe gvodukpo tfuMpv
42
43 // tfu nkovuf wbmvt
44 \knf )\knf==tfuTkovuf+ kou n , // opuf \knf ) sfuvso
45
46     nkovuf A + n BA 3 )) n ? 93 , D n = 3> // wbmkebuf nkovuf
47     sfuvso -uikt> // fobcmft dbtdbekoh
48     // foe gvodukpo tfuTkovuf
49
4     // tfu tfdpoe wbmvt
51 \knf )\knf==tfuafdpoe+ kou t , // opuf \knf ) sfuvso
52
53     tfdpoe A + t BA 3 )) t ? 93 , D t = 3> // wbmkebuf tfdpoe
54     sfuvso -uikt> // fobcmft dbtdbekoh
55     // foe gvodukpo tfuafdpoe
56
57 // hfu ipvs wbmvt
58 kou \knf==hfuMpv+, dpotu
59
5     sfuvso ipvs>
61     // foe gvodukpo hfuMpv
62
63 // hfu nkovuf wbmvt
64 kou \knf==hfuTkovuf+, dpotu
65
66     sfuvso nkovuf>
67     // foe gvodukpo hfuTkovuf
68

```

 \knf r-ø z tz pt .u |r x+ stu|xx+ z -sxts -t |opt ro rosts z tz pt .
u |r x+ ro-0(fo 4 -u50)

```

69 // hfuo tfdpoe wbmvf
6 kou \knf==hfuafdpoe+, dpotu
71
72 sfuvso tfdpoe>
73 // foe gvodukpo hfuafdpoe
74
75 // rskou \knf ko vokwfstbm2uknf gpsnbu +MM=TT=aa,
76 wpke \knf==rskou]okwfstbm+, dpotu
77
78 dpvu ?? tfugkmm+ 3 , ?? tfu!+ 5 , ?? ipvs ?? #=#
79 ?? tfu!+ 5 , ?? nkovuf ?? #=# ?? tfu!+ 5 , ?? tfdpoe>
7 // foe gvodukpo rskou]okwfstbm
81
82 // rskou \knf ko tuboebse2uknf gpsnbu +MM=TT=aa ET ps YT,
83 wpke \knf==rskouaubeobse+, dpotu
84
85 dpvu ?? + + ipvs AA 3 ipvs AA 45 , D 45 = ipvs ( 45 ,
86 ?? #=# ?? tfugkmm+ 3 , ?? tfu!+ 5 , ?? nkovuf
87 ?? #=# ?? tfu!+ 5 , ?? tfdpoe ?? + ipvs ? 45 D # ET# = # YT# ,>
88 // foe gvodukpo rskouaubeobse

```

sr I UU \knf r-ø z tz pt .u |r x-| stu|xx-| z -sxuts -t |opt ro rosts z tz pt .
u |r x-| ro-0(fo 5 -u50)

```

2 // Ikh. 43.4<= gkh43~4<.drr
3 // Lbtdebekoh nfncfs2gvodukpo dbmmt !kui uif uikt rpkoufs.
4 %kodmvef ?kptusfbnB
5 %kodmvef #\knf.i# // \knf dmbtt efgkokukpo
6 vtkoh obnftrbdf tue>
7
8 kou nbko+,
9
   \knf u> // dsfbuf \knf pc fdu
21
22 // dbtdbefe gvodukpo dbmmt
23 u.tfuMpv+ 4; ,.tfuTkovuf+ 63 ,.tfuaufdpoe+ 55 ,>
24
25 // pvurvu uknf ko vokwfstbm boe tuboebse gpsnbut
26 dpvu ?? #]okwfstbm uknf= #>
27 u.rskou]okwfstbm+,>
28
29 dpvu ?? #{oauboebse uknf= #>
2 u.rskouaubeobse+,>
31
32 dpvu ?? #{o{oUf! tuboebse uknf= #>
33
34 // dbtdbefe gvodukpo dbmmt
35 u.tfu\knf+ 531 531 53 ,.rskouaubeobse+,>
36 dpvu ?? foem>
37 // foe nbko

```

sr I UU Oo rosx|v z tz pt .u |r x-| ro- xw wt uikt -x| t 0(fo 3 -u40)

Jokwfstbm uknf= 4;=63=55
 auboebse uknf= 9=63=55 YT

Uf! tuboebse uknf= ;=53=53 YT

sr I UU Oo rosx|v z tz pt .u |r x+ro- xw wt uikt →| t 0(fo 4 -u40)

c p m x z w o z i u w n M p 2 5 4 5 C k z n i - m \ k n f w j m k - u , t q m C 0 - p n w ; ' m q - q k i ' k i l n h u n n j n l n v k - q w k i t ' , t q m 5 6 i v l 6 8 - 2 f p " l w n - p m - n k p v q ; m w n z n a ; z v q o - u i k t i ' i z n n z n n k m [w s c p m l w - w x n a i - w z , - i ' ' w k q - m n z w u t n n - w z q p - 0 ' w t q m 5 6 n q ' - n i t ; i - m u . t f u M p v s + 4 ; , 0 - p n w z n a ; z v ' i z n n z n n k m - w w j m k - u i ' - p m i t ; m w n - p q n v k - q w k i t t 2 c p m z n n i q q o n x z n ' q w q - p n w q - n x z n n h i ' i

u . t f u T k o v u f + 6 3 , . t f u a f d p o e + 5 5 , >

c p m u . t f u T k o v u f + 6 3 , k i t t n k ; - m i v l z n a ; z v ' i z n n z n n k m - w - p m w j m k - u 2 c p m z n n i q 1 q o n x z n ' q w q - p n w q - n x z n n h i ' i

u . t f u a f d p o e + 5 5 , >

S q m 6 8 i t ' w ; ' m k i ' k i l q o 2 c p n k i t ' u ; ' - i x x n i z q - p m w l n a ' p w [v q t q m 6 8 0 j n k i ; ' m r s k o u a u b o e b s e i ' l n m y n h q - p m k t i ' ' l w n v w - z n a ; z v i z n n z n n k m - w u 2 V i k q o - p m k i t t - w r s k o u a u b o e b s e j n m w z m - p m k i t t - w t f u \ k n f q t q m 6 8 z n a ; t ' q i k w u x q i - q w n a z w 2 H p i x - n a 5 5 x z n n - ' ' n a z i t x z i k - q i t n i u x t n w n ; ' q o k i ' k i l n h n v k - q w k i t t 2 V v m ' ; k p n i u x t n ' m u ; t - q t m ? w x n a i - w z [q p d p v u - w w ; - x ; - u ; t - q t m i t ; m q i ' q o t m - i - n n n - 2

UU d re Pu .. pv mp-.

c p n z m q i v q i x w z - i v - n j k n x - q w - w - p m z ; t m - p i - n i k p w j m k - w n i k t i ' ' p i ' q ' w [v k w x " w n i t t - p m l i - i u n n j n a ' w n - p m k t i ' ' 2 P v k n a - i q k i ' m 0 w t " w m k w x " w n i ? i z j t m ' p w ; t j m ' p i z n h j " i t t w j m k - w n i k t i ' ' 2 E d r e v s s — — t - q ; ' n h n w z - p m m i v l w - p r a z n i ' w ' 2 b ; k p i ? i z j t m z n z n n - ' k t i ' ' l [q m q n w z u i - q w , q n d i x z w x n a - " - p i - q ' p i z n h j " i t t q ' - i v k n i v l q v w - ' x n k q t k - w i v " w n w j m k - w n - p m k t i ' ' - 2 a n k i t t - p i - p m z n a ' q w ' w n k t i ' ' J s b e f F p p l q H p i x - n a A ; ' m t u b u k d l i - i u n n j n a ' - w ' - w z m k w - i v - ' z n z n n n - q o - p m v ; u j n a w n o z i l m - p i - i t t J s b e f F p p l w j m k - k i v p w d 2

z su'culo macttH l i l cv

S m - n z - p r a u w - q i - m - p m v n n h n w z t u b u k d k t i ' ' l [q m l i - i [q p i v n i u x t n 2 b ; x x w m - p i - [m p i ? m i ? q n w o i u m [q p T b s u k b o ' i v l w - p r a ' x i k m k z n i ; z n 2 L i k p T b s u k b o - n w l ' - w j m j z i ? m i v l [q t q o - w i - i k s w - p r a ' x i k m k z n i ; z n [p n w - p m T b s u k b o q i [i z m - p i - p r a m i z n i - t n i ' - n q m T b s u k b o ' x z n n - 2 P h m l n a - p i v n q m i z m x z n n - 0 n i k p T b s u k b o j n k w u m k w [l i z l t " 2 b w n i k p T b s u k b o v n n h ' - w s v w [- p m n b s u k b o L p v o u 2 f m k w ; t l n w l w [n i k p q ' - i v k m w n k t i ' ' T b s u k b o [q p n b s u k b o L p v o u i ' i l i - i u n n j n a 2 P h [m l w 0 n a n a " T b s u k b o [q t p i ? m i ' n a z i - m k w x " w n - p m l i - i u n n j n a 2 L ? n a " - q i m [m k z n i - m i v n h T b s u k b o 0 [n a - p i ? m - w ; x l i - m - p m l i - i u n n j n a n b s u k b o L p v o u q i t t T b s u k b o w j m k - 2 I w q o - p q [w ; t l z n y ; q m n a n a " T b s u k b o w j m k - w p i ? n 0 w z p i ? m i k k n ' - w 0 p i v l t n - w i t t w - p r a T b s u k b o w j m k - q u n n w z " 2 c p q [i ' - m ' x i k m [q p - p n z n h ; v l i v - k w x q n i v l [i ' - m - q i m y ; x l i - q o - p m n a l i z i - m k w x q n 2 P v ' - n i l 0 [m l n k t i z m n b s u k b o L p v o u - w j m t u b u k d 2 c p q u i s m n b s u k b o L p v o u k t i ' ' l [q m l i - i 2 L ? n a " T b s u k b o k i v i k k n ' n b s u k b o L p v o u i ' q q - [n a n i l i - i u n n j n a w n - p m

Tbsukbo0j; -wt“ wmkwx“ wn-pmtubukd ?izqj tnnbsukboLpvou q̇ u i q̇-i q̇ nh j “ H. 2
c p q̇ 'i? m' xiknāf m'i? m-qi mj “ pi? q̇ o -pmTbsukbo kw' -z; k-wz q̇ kznū nū -tubukd ?izq̇
ij tnnbsukboLpvou ivl pi? q̇ o -pmTbsukbo l m' -z; k-wz l nkznū nū -nbsukboLpvou 2F nki; 'm
-pnamq̇ wt“ wmkwx“ 0[ml vvw-pi? m-wq̇ kznū nū -wz l nkznū nū -' nā i zi -mkwx q̇ n wnnbs2
ukboLpvou nū nkp Tbsukbo wj m k-2



bp- (-v l wnp es) UQh

i ynbicr lkzk n ngy zu yk(ny zuakon) nt k ypt osn uw+u z nl kzk uwks u n zy u
k skyy) ps y' p n

es i co aolulcn culso s y i r l I cw z i i t

Et-pw, op -pm̄ u i “ 'nmm̄ tq̇ motwj it ?izqj tñ0i ki” -tubukd li-i u nū j nā pi? mki”
'kwx n2 Et' w0 tubukd u nū j nā ki v j ml nki znh rvcmkd0 rskwbuf wz rspufdufe 2E n vl i l
u nū -itl “ xmtubukd li-i u nū j nā q̇ q̇ q̇ q̇ nh j “ l nmi; t-w32 Rn “ w [i v-i l q̇ m nū -q̇ q̇
-q̇ t ? i t; n0i tubukd li-i u nū j nā ki v j m q̇ q̇ q̇ q̇ nh ut n2E tubukd dpotu li-i u nū j nā wn
kou wz fovn “ xmk i v j m q̇ q̇ q̇ q̇ nh q̇ q̇ l nki zi -q̇ w q̇ -p mki” l n m q̇ q̇ q̇ w 2 O w l nā nā 0 i t t
w-p nā tubukd li-i u nū j nā u; ' -j ml n m q̇ nh k z o s u k s t k n y k n y u n n, q̇ nā w, -q̇ m-p m
j w l “ wn-p mki” l n m q̇ q̇ q̇ w- i v l k i v j m q̇ q̇ q̇ q̇ nh w t “ q̇ -p w ml n m q̇ q̇ q̇ w 2 R h i tubukd
li-i u nū j nā q̇ i v w j m k- w n i k i” -p i -x z w q̇ m i l n m i; t- k w ' -z; k- w z 0 -p m t u b u k d l i -i
u nū j nā v n m h v w -j m q̇ q̇ q̇ q̇ nh j n k i; ' m q̇ l n m i; t- k w ' -z; k- w z [q̇ t j m k i t t n h 2

Deittlo y i r l I cw z i i t

E ki” -rskwbuf ivl rspufdufe tubukd u nū j nā i z m v w z u i t “ i k k m' n h -p z w, o p -p m
k i” -r v c m k d u nū j nā n v k -q w ' w z g s k f o e ' 2 E k i” -t u b u k d u nū j nā n h q̇ -nā n [p n x
v w w j m k -' w n -p i -k i” n h q̇ -2 c w i k k m' i r v c m k d t u b u k d k i” u nū j nā [p n x v w w j m k -' w n
-p m k i” n h q̇ -0' q̇ u x t “ x z n m q̇ -p m k i” v i u m i v l -p m j q̇ i z “ ' k w x n z m h w t; -q̇ w w x n i -w z, ==-
-w -p m v i u m w n -p m l i -i u nū j nā 2 M z n h i u x t n q̇ w; z x z n k n h q̇ o ? i z q̇ j t n n b s u k b o L p v o u q̇
r v c m k d 0 q̇ -k i v j m i k k m' n h [q̇ p -p m n h x z m' q̇ w T b s u k b o == n b s u k b o L p v o u [p n x -p n a m i z n w
T b s u k b o w j m k -' 2, V n k w; z' n 0; ' q̇ o r v c m k d l i -i q̇ l q̇ k w; z i o n h 2

c w i k k m' i r s k w b u f w z r s p u f d u f e t u b u k d k i” u nū j nā [p n x v w w j m k -' w n -p m k i”
n h q̇ -0 x z w q̇ m i r v c m k d d r e —t- E u y i v l k i t t -p m n v k -q w j “ x z n m q̇ q̇ o q̇
v i u m l q̇ p -p m k i” v i u m i v l j q̇ i z “ ' k w x n z m h w t; -q̇ w w x n i -w z 2 E t u b u k d u nū j nā n v k l
-q̇ w q̇ i ' n a' d n m n -p m s k y 0 v w -w n i ' x n k q̇ q̇ w j m k -' w n -p m k i” 2



d(03 l -p w r swpp-swr m p-2l 0x w UQh

skyyGbcicr lkzk n ngy ktl bcicr n nū 't z p u t y n p y z k t l k t n' y n l n
p t u u n z y u z k z s k y y k (n m i p t y z k t z p k z n l c

I i sotwculo y i r l I cw z i i t

c p m x z w o z i u w n M p ' 2 5 4 2 6 4 5 4 2 6 6 l n m w ' -z i -m i r s k w b u f t u b u k d l i -i u nū j nā k i t t n h
d p v o u , M p 2 5 4 2 6 4 0 t q̇ m 6 9 - i v l i r v c m k d t u b u k d u nū j nā n v k -q w k i t t n h h f u L p v o u
, M p 2 5 4 2 6 4 0 t q̇ m 5 G 2 R v M p 2 5 4 2 6 5 0 t q̇ m B l n m y m̄ i v l q̇ q̇ q̇ q̇ m̄ -p m l i -i u nū j nā d p v o u
-w " n a w k z o s u k s t k n y k n y u n i v l t q̇ m̄ 5 6 5 9 l n m y m t u b u k d u nū j nā n v k -q w h f u 2
L p v o u 2 U w -q̇ m -p i -v n q̇ p n a t q̇ m B v w z t q̇ m 5 6 q̇ k t; l m̄ s m̄ l w l t u b u k d 0 " n a j w -p t q̇ m̄ z n m n a
-w t u b u k d k i” u nū j nā 2 f p n x t u b u k d q̇ i x x t q̇ n h -w i v q̇ n i -o t w j i t v i u m̄ x i k m' k w x n 0
-p i -q̇ n i j n k w u m̄ s v w l v w t “ q̇ -p i -n p n 2 c p m t u b u k d k i” u nū j nā v n m h -w j n i ? i q̇ i j t m

-wiv“ ktqw-kwl m-pi-; ’m-pmkti’’0’w[ml nktizm-pm tubukd wt“ q’-pm.i npt2I i-i
 u nm j na dpvou u iq-iq’ i kw v-wn-pmv; u j na wnwj mk-’ wnkii’’ Hnrm ff -pi-pi?m
 j nm q’-iv-q-nh2f pnv wj mk-’ wnkii’’ Hnrm ff njq-0u nm j na dpvou kiv j nznznznknh
 -pzw; op iv“ u nm j na nvk-qw wniv Hnrm ff wj mk- q Mp254250dpvou q znmznznknh
 j“ j wp tqm66 q’-pmkw’-z; k-wz ivl tqm76 q’-pml m’-z; k-wz2



P(v v (wb-(r-l v v sw --(- - U

*Ngk u vpskzpt nzwvzpt s’lnrn) ub bcicr pt z nlnpt pzt u k bcicr lkzk
 n nwkzosu ks tk nyk ny wnc*

```

2 // Ikh. 43.53= Hnrm ff.i
3 // Hnrm ff dmbtt efgkokukpo !kui b tubukd ebub nfncfs up
4 // usbd1 uif ovncfs pg Hnrm ff pc fdut ko nfns
5 %kgoefg HTYRXxHH~M
6 %efgkof HTYRXxHH~M
7
8 %kodmvef ?tuskohB
9 vtkoh obnftrbdf tue>

21 dmbtt Hnrm ff
22
23 rvcmkd=
24 Hnrm ff+ dpotu tuskoh )1 dpotu tuskoh ) ,> // dpotusvdups
25 Hnrm ff+,> // eftusvdups
26 tuskoh hfuiIktuUbnf+, dpotu> // sfuvso gkstu obnf
27 tuskoh hfuiRbtuUbnf+, dpotu> // sfuvso mbtu obnf
28
29 // tubukd nfncfs gvodukpo
2 tubukd kou hfuiLpvou+,> // sfuvso ovncfs pg pc fdut kotuboukbufe
31 rskwbuf=
32 tuskoh gkstuUbnf>
33 tuskoh mbtuUbnf>
34
35 // tubukd ebub
36 tubukd kou dpvou> // ovncfs pg pc fdut kotuboukbufe
37 > // foe dmbtt Hnrm ff
38
39 %foekg

```

s I U f O Hnrm ff r-0 stux|xx+ xwo tubukd so o z tz pt — or’ wt | z pt —
 Hnrm ff -pxr x| z tz — 0

```

2 // Ikh. 43.54= Hnrm ff.drr
3 // Hnrm ff dmbtt nfncfs2gvodukpo efgkokukpot.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Hnrm ff.i# // Hnrm ff dmbtt efgkokukpo
6 vtkoh obnftrbdf tue>
7

```

s I U f U Hnrm ff r-0 z tz pt .u | r x+ stux|xx+ 0(fo 3 -40)

```

8 // efgkof boe kokukbmk f tubukd ebub nfncfs bu hmpcbm obnfrbdf tdprf
9 kou Hnrmf ff==dpvou A 3> // dboopu kodmvef lf !pse tubukd

21 // efgkof tubukd nfncfs gvodukpo uibu sfuvsot ovncfs pg
22 // Hnrmf ff pc fdut kotuboukbufe +efdmbsfe tubukd ko Hnrmf ff.i,
23 kou Hnrmf ff==hfuLpvou+,
24
25 sfuvso dpvou>
26 // foe tubukd gvodukpo hfuLpvou
27
28 // dpotusvdups kokukbmk ft opo2tubukd ebub nfncfst boe
29 // kodsfnfout tubukd ebub nfncfs dpvou
2 Hnrmf ff==Hnrmf ff+ dpotu tuskoh )gkstu1 dpotu tuskoh )mbtu ,
31 = gkstuUbnf+ gkstu ,1 mbtuUbnf+ mbtu ,
32
33 00dpvou> // kodsfnfou tubukd dpvou pg fnrmf fft
34 dpvu ?? #Hnrmf ff dpotusvdups gps # ?? gkstuUbnf
35 ?? ?? mbtuUbnf ?? # dbmmfe.# ?? foem>
36 // foe Hnrmf ff dpotusvdups
37
38 // eftusvdups efbmmpdbuft e obnkdbmm bmmfdbufe nfnps
39 Hnrmf ff== Hnrmf ff+,
3
41 dpvu ?? # Hnrmf ff+, dbmmfe gps # ?? gkstuUbnf
42 ?? ?? mbtuUbnf ?? foem>
43 22dpvou> // efdsfnfou tubukd dpvou pg fnrmf fft
44 // foe Hnrmf ff eftusvdups
45
46 // sfuvso gkstu obnf pg fnrmf ff
47 tuskoh Hnrmf ff==hfuIkstuUbnf+, dpotu
48
49 sfuvso gkstuUbnf> // sfuvso dpr pg gkstu obnf
4 // foe gvodukpo hfuIkstuUbnf
51
52 // sfuvso mbtu obnf pg fnrmf ff
53 tuskoh Hnrmf ff==hfuRbtuUbnf+, dpotu
54
55 sfuvso mbtuUbnf> // sfuvso dpr pg mbtu obnf
56 // foe gvodukpo hfuRbtuUbnf

```

sr I Uaf U Hnrmf ffr-ø ztz pt .u |r x+|stux|xx+| 0(fo 4 -u40)

Mp; zm54266 ; 'm tubukd u nū j nā ŋ vk-qw hfuLpvou -wl nāzu qm-pmv; u j nā wn
Hnrmf ff vj mē- q' u nū vz" i-?izq; ' xwq- q' -pmxzwozi u 2 c pmxzwozi u ki t'
Hnrmf ff==hfuLpvou+, j nūvzni v" Hnrmf ff vj mē- pi?mj nūv kznī-nh , tqm56-0i nā- [w
Hnrmf ff vj mē- pi?mj nūv kznī-nh , tqm67- ivl i nā- -pw mHnrmf ff vj mē- pi?mj nūv
l m-zw' nh , tqm78-2S qm 5: 6C q' nbko l nūymi v m-nh 'kwxn2a nki t -pi -twki t? i zq j tñ
ñq-; v-q -pm' kwx m q' [p q p -pñ i znl nūy nh -nāu q i -m2Pv -p q' ñ i u x tñ [mkznī-m- [w
Hnrmf ff vj mē- q' tqm 5A 5B q' d m-pmv m-nh 'kwxn2E' nākp kw' -z; k-vz ñ nñ; -m0 q-
q' kznī nū- kti" Hnrmf ff-tubukd li-i u nū j nā dpvou2 c pñmHnrmf ff vj mē- izm
l m-zw' nh [pñv -pmxzwozi u zñākpñ tqm62E--pi-xwq-0 nākp vj mē- l m-z; k-vz ñ nñ
k; -m ivl l nāznī nū- kti" Hnrmf ff-tubukd li-i u nū j nā kw; v-2

```

2 // Ikh. 43.55= gkh43~55.drr
3 // tubukd ebub nfncfs usbdlkoh uif ovncfs pg pc fdut pg b dmbtt.
4 %kodmvef ?kptusfbnB
5 %kodmvef #Hnrmf ff.i# // Hnrmf ff dmbtt efgkokukpo
6 vtkoh obnftrbdf tue>
7
8 kou nbko+,
9
10 // op pc fdut f ktu> vtf dmbtt obnf boe ckobs tdprf sftpmvukpo
11 // prfsbups up bddftt tubukd nfncfs gvodukpo hfuLpvou
21 dpvu ?? #Uvncfs pg fnrmf fft cfgpsf kotuboukbukpo pg bo pc fdut kt #
22 ?? Hnrmf ff==hfuLpvou+, ?? foem> // vtf dmbtt obnf
23
24 // uif gpmp!koh tdprf dsfbuft boe eftusp t
25 // Hnrmf ff pc fdut cfgpsf nbko ufsnkobuft
26
27 Hnrmf ff f4+ #avtbo#1 #Fblfs# ,>
28 Hnrmf ff f5+ #Spcfsu#1 #Opoft# ,>
29
30 // u!p pc fdut f ktu> dbmm tubukd nfncfs gvodukpo hfuLpvou bhbko
31 // vtkoh uif dmbtt obnf boe uif ckobs tdprf sftpmvukpo prfsbups
32 dpvu ?? #Uvncfs pg fnrmf fft bgufs pc fdut bsf kotuboukbufe kt #
33 ?? Hnrmf ff==hfuLpvou+,>
34
35 dpvu ?? #{o{Hnrmf ff 4= #
36 ?? f4.hfuIkstuUbnf+, ?? # # ?? f4.hfuRbtuUbnf+,
37 ?? #{o{Hnrmf ff 5= #
38 ?? f5.hfuIkstuUbnf+, ?? # # ?? f5.hfuRbtuUbnf+, ?? #{o{o#>
39 // foe oftufe tdprf ko nbko
40
41 // op pc fdut f ktu1 tp dbmm tubukd nfncfs gvodukpo hfuLpvou bhbko
42 // vtkoh uif dmbtt obnf boe uif ckobs tdprf sftpmvukpo prfsbups
43 dpvu ?? #{o{Uvncfs pg fnrmf fft bgufs pc fdut bsf efmfufe kt #
44 ?? Hnrmf ff==hfuLpvou+, ?? foem>
45 // foe nbko
46

```

Uvncfs pg fnrmf fft cfgpsf kotuboukbukpo pg bo pc fdut kt 3
Hnrmf ff dpotusvdups gps avtbo Fblfs dbmmfe.
Hnrmf ff dpotusvdups gps Spcfsu Opoft dbmmfe.
Uvncfs pg fnrmf fft bgufs pc fdut bsf kotuboukbufe kt 5

Hnrmf ff 4= avtbo Fblfs
Hnrmf ff 5= Spcfsu Opoft

Hnrmf ff+, dbmmfe gps Spcfsu Opoft
Hnrmf ff+, dbmmfe gps avtbo Fblfs

Uvncfs pg fnrmf fft bgufs pc fdut bsf efmfufe kt 3

sr l Uaf f tubukd so oz tz pt or'x|v wt | z pt -u-pxr -uor-ø 0

E u nni j nni vk-qw 'pw; d j ml nkti znh tubukd qnq-l wn vw-ikkn' vvw ltubukd li-i
u nni j nni' vz vvw ltubukd u nni j nni vk-qw' wn-pnkti''2d vtq nvw ltubukd u nni j nni vki
-qw'Oi tubukd u nni j nni vk-qw l wn vw-pi?ni uikt xwq-m0j nki; 'mtubukd li-i u nni l