

F guki p'ēpf 'lo r ngo gpvcvkqp'qhlēp': -dk/CNWdēcugf 'q̄p'xgt kqi " J FN

\ j qwj cqJ wēpi

Uej qqrñqhCfxcpegf "Vgej pqrñi { . "Zk":cp"lkcqvqpi -Nkxgr qqrñWp̄kxgtukf. "Uw j qw." 43724: . "Ej kpc

\ j qwj cqJ wēpi 43B uwf gpv̄zlwn̄gf wēp

Cduntcew̄J cp{ "o qf gtp"r tqeguqtu"lpeqtr qtcvg"cp"Ctkj o gve"Nqi le"Wpk"CNW"cu"cp"l̄p̄gi tcrñ eqo r qp̄gp̄Vj g"CNW"r nē{u"e"r kxqcrñtq̄g"l̄p"ctkj o gve"cpf "ñi lecrñqr gtcvkpu."o cn̄kpi "k"e" h̄w̄fco gp̄crñ d̄m̄jñ l̄p"r tqeguqt" ctej k̄gewt̄ḡ W̄k̄k̄ l̄pī "uq̄h̄y ctg" v̄q̄ñi" r̄k̄g" S wctwu" K̄c̄p̄f " O qf gn̄l̄o . "qp̄g"ecp"ugco r̄guñ{ "f guki p. "lo r ngo gpv"cpf "uko w̄c̄vg"cp": -dk/CNW̄Vj ku'tgugctej " h̄q̄ewu"qp"et̄gc̄v̄kpi "cp"CNW̄y c̄v̄ecp"r gthqto "c"dt̄q̄cf "t̄cpi g"q̄h"qr gtcvkpu. "l̄p̄erñ l̄pī "Cf f k̄k̄qp." Uwd̄t̄cevkqp." O w̄n̄k̄ r̄ec̄vkqp." F k̄k̄k̄qp." Uj k̄k̄k̄pī . " T̄q̄c̄vkqp." C̄P̄F̄ . " Q̄T̄ . " Z̄Q̄T̄ . " P̄Q̄T̄ . " P̄C̄P̄F̄ . " Z̄P̄Q̄T̄ . " cpf " Eqo r ctkuqp̄ Y k̄j " ȳ ḡug" 38" qr gtcvkpu" l̄p" o l̄p̄f . " ȳ g" CNW̄u" ek̄ew̄kt { " ȳ cu" o ḡk̄ew̄q̄w̄uñ { " et̄ch̄gf " w̄ukpi " S wctwu" K̄Ō V̄q" x̄c̄r̄k̄f c̄vg" ku" h̄w̄p̄ev̄k̄p̄cr̄k̄v̄ { " cpf " r̄ gthqto c̄peg. " l̄q̄l̄p̄v" uko w̄c̄vkpu"ȳ ḡt̄g"eq̄pf w̄ev̄gf "ȳ k̄j "d̄q̄j " S wctwu" K̄C̄p̄f " O qf gn̄l̄o ŌCu"e"t̄guw̄u"eqo r t̄ḡj gp̄uk̄x̄g" uko w̄c̄vkqp"ȳ c̄x̄gh̄qto u"ȳ ḡt̄g" f̄gt̄k̄x̄gf . "q̄h̄gt̄l̄pī "l̄p̄ukī j u"l̄p̄v̄q"ȳ g"CNW̄u"dḡj c̄x̄k̄qt"cpf "t̄gur q̄p̄ug"h̄qt" ḡcej "l̄p̄ut̄w̄ev̄k̄p̄ŌVj ḡug"ȳ c̄x̄gh̄qto u"l̄gt̄x̄g"cu"e"v̄guco gp̄v̄q"ȳ g"CNW̄u"t̄q̄d̄w̄uñ f̄ guki p'ēpf "r̄ t̄q̄x̄k̄f ḡc" h̄q̄w̄pf c̄vkqp"h̄qt" h̄w̄t̄j ḡt"cp̄cn̄f uku"cpf "qr v̄ko k̄ c̄vkqp̄O

M̄g{ ȳ q̄t̄f <C̄nw"X̄gt̄k̄q̄i . "S wctwu"K̄K̄Ō qf gn̄l̄o . "Uo w̄c̄vkp̄O

1. K̄p̄t̄q̄f w̄ev̄k̄p̄

Vj g"eq̄p̄egr v"q̄h"ȳ g"Ctkj o gve"Nqi le"Wpk"ȳ cu"l̄p̄k̄k̄m̄ { "l̄p̄t̄q̄f w̄ev̄gf "d{ "l̄q̄j p"x̄q̄p"P̄ ḡwo c̄p̄p"l̄p"3; 67" f̄ w̄l̄kpi "j̄ ku"ȳ q̄t̄m̄q̄p"ȳ g"l̄q̄w̄pf c̄vk̄p̄cr̄ñc̄ur ḡew"q̄h"ȳ g"GF̄X̄CE"eqo r w̄gt̄ŌCu"ȳ g"3; 92u"v̄w̄j ḡt̄gf "l̄p"ȳ g"gtc" q̄h"o let̄qr tqeguqtu."ȳ g"gx̄q̄n̄w̄k̄qp"q̄h"ȳ g"CNW"gp̄v̄gt̄gf "cp"cf̄xc̄pegf "r̄j c̄uḡŌC̄f̄j ḡt̄l̄pī "v̄q"Ō q̄q̄t̄ḡw̄i"N̄cy . " ȳ g"ūk̄ g"q̄h"t̄c̄p̄uk̄ūq̄t̄u"j̄ cu"eq̄v̄k̄p̄w̄cm̄ { "f̄ ḡet̄gc̄ugf . "l̄c̄ek̄k̄c̄v̄kpi "ȳ g"l̄p̄v̄gi t̄c̄vkqp"q̄h"o q̄t̄g"gz̄r c̄p̄uk̄x̄g"CNW̄u" l̄p̄v̄q"o let̄qr tqeguqtu"]3_0

Cp"CNW."cp"gūgp̄v̄k̄rñeqo r qp̄gp̄v̄ȳ k̄j l̄p"p̄wo ḡt̄q̄w̄r tqeguqtu."v̄{ r̄ l̄c̄cm̄ { "eq̄p̄uk̄u"q̄h"ȳ q"r̄ t̄ko ct { " w̄p̄ku"ñi lecrñqr gtcvkpu"cpf "ctkj o gve"qr gtcvkpūŌVj ku" f̄ guki p"cm̄ȳ u"ȳ g"CNW"v̄q"gz̄ḡew̄g"e"ȳ l̄f̄ g" ct̄tc { "q̄h"o c̄v̄j go c̄v̄l̄ec̄rñcpf "ñi lecrñh̄w̄p̄ev̄k̄pu"]4_0Eqo o w̄p̄l̄ec̄vkqp"ȳ k̄j "ȳ g"CNW"ku"l̄c̄ek̄k̄c̄v̄gf "ȳ t̄q̄w̄i j " d̄w̄ugūŌC̄p"l̄p̄eqo l̄pī "l̄p̄ut̄w̄ev̄k̄p"eqo r t̄k̄ugu"cp"l̄p̄ut̄w̄ev̄k̄p"ȳ q̄t̄f . "q̄ēec̄uk̄q̄p̄cm̄ { "t̄gh̄gt̄t̄gf "v̄q"cu"e"o c̄ej k̄p̄g" l̄p̄ut̄w̄ev̄k̄p"ȳ q̄t̄f ŌVj ku"ȳ q̄t̄f "ḡp̄eqo r cūgu"cp"qr gtcvkqp"eq̄f g"q̄r̄ eq̄f ḡ+ "qp̄g"q̄t"uḡx̄gt̄c̄rñqr ḡt̄c̄p̄f u."cpf " q̄ēec̄uk̄q̄p̄cm̄ { "c"l̄qto c̄v̄"eq̄f ḡŌVj g"qr̄ eq̄f g" f̄ ḡr̄k̄p̄gc̄vgu"ȳ g"qr̄ gtcvkqp"ȳ g"CNW"ūj q̄w̄f "gz̄ḡew̄g"cpf "ȳ g" p̄wo d̄gt"q̄h"qr ḡt̄c̄p̄f u"l̄p̄x̄q̄x̄gf "l̄p"ȳ c̄v̄r̄ c̄t̄w̄ew̄t"qr gtcvkp̄O

X̄gt̄k̄q̄i "J̄ c̄t̄f ȳ c̄t̄g" F̄ ḡuet̄k̄ v̄k̄p"N̄cpi w̄ci g"ku"ew̄t̄t̄gp̄v̄ { "ȳ g"r̄ t̄gf̄ q̄o k̄p̄cp̄v̄r̄pi w̄ci g"w̄ugf "h̄qt"j̄ c̄t̄f ȳ c̄t̄g" f̄ ḡuet̄k̄ v̄k̄p"l̄p"H̄k̄r̄f "R̄t̄q̄i t̄co o c̄d̄r̄g" Ī c̄vg" C̄t̄tc { u" *H̄R̄I C + "cpf "f̄ k̄i k̄c̄rñl̄p̄v̄gi t̄c̄vgf "Ēk̄ew̄k̄" *K̄E + "f̄ guki p̄ŌK̄" t̄cp̄m̄i co q̄pi " ȳ g"v̄q̄r " ȳ t̄gg" o c̄l̄q̄t" j̄ c̄t̄f ȳ c̄t̄g" f̄ ḡuet̄k̄ v̄k̄p"r̄pi w̄ci gūŌ X̄gt̄k̄q̄i " J̄ c̄t̄f ȳ c̄t̄g" F̄ ḡuet̄k̄ v̄k̄p" N̄cpi w̄ci g"q̄h̄gt̄u"e"v̄gz̄w̄c̄n̄t̄gr̄ t̄gūgp̄v̄k̄qp"q̄h"ȳ g"ūt̄w̄ew̄t̄g"cpf "d̄ḡj c̄x̄k̄qt"q̄h"e" f̄ k̄i k̄c̄rñu"l̄ūgo ŌVj t̄q̄w̄i j "

Xgtkqi . "qpg"ecp"ctvkwrcvg"nqi lecn'ekewk'f kci tco u."nqi lecn'gzr tguukqpu."cpf "vj g"nqi lecn'hwpevkqpu"
gzgewgf "d{ "c" f ki kcn' nqi le"u{ ugo "]5_0'O qf wgu"u{ p vj guk gf "wukpi "vj ku'ncpi wci g"ecp"dg"ko r ngo gpvgf "
cu"j ctf y ctg"ekewku."crr gctkpi "kp"vj g"hpkn'nc{ qw'qp"HRI C."Eqo r ngz "Rtqi tco o cdng"Nqi le"F gxleg"
*ERNF +."Crr r necvkqp-Ur gekle"Kpvi tcvgf "Ekewk" *CUE+."cpf "o qtg0' Vj g" uko wrcvkqp"uko wwu" hng"
v{ r lecn{ "xgtkkgu"vj g"ceewtce{ "qh"vj g"u{ p vj guk gf "f guki p"o qf wrg0

S wctwu" vj g" Ugeqpf " ku" c" j qrkule" Eqo r ngz" Rtqi tco o cdng" Nqi le" F gxleg" *ERNF +Hkgrf "
Rtqi tco o cdng"l cvg"Cttc{ "HRI C+"f gxgnr o gpv'vqqn]6_0'K'ku"eqo r cvkdr"y kj "xctkqu" f guki p"kp r wu."
kpenw f kpi "uej go cvle" f kci tco u."Xgt{ "J ki j -Ur ggf "Kpvi tcvgf "Ekewk"J ctf y ctg"F guetkr vkqp"Ncpi wci g"
*XJ F N+."Xgtkqi "J ctf y ctg"F guetkr vkqp"Ncpi wci g."cpf "Cf xcpegf "J ctf y ctg"F guetkr vkqp"Ncpi wci g0
Go dgf f gf "y kj kp"S wctwu"vj g"Ugeqpf "ctg"ku"pcvkg"u{ p vj guk gt"cpf "uko wrcvqt."y j lej "qi gyj gt"ecp"
pcxki cvg"vj g"gpvtg"Rtqi tco o cdng"Nqi le"F gxleg" *RNF +f guki p"vclgevqt{."ltqo "vj g" f guki p ai"lpegr vkqp"
vq'ku"j ctf y ctg"eqphki wrcvkqp0

O qf gnuko ."c"tgr tguqpcvkg"uko wrcvkqp"vqqn"gp f qtugu"Xgtkqi ."Xgt{ "J ki j -Ur ggf "Kpvi tcvgf "Ekewk"
J ctf y ctg"F guetkr vkqp"Ncpi wci g" *XJ F N+."cpf "vj gkt" eqo dkpgf "uko wrcvkqp" r tqeguugu0' F wtkpi "vj g"
uko wrcvkqp." O qf gnuko " r tqf wegu" c" y cxghqto " f kci tco " i tqwpf gf " kp" vj g" f guki p" cpf " uko wrcvkqp"
f qewo gpv0'D{ "uetwkp kpi "vj ku"y cxghqto ."qpg"ecp"cuegtckp"vj g"hwpevkqpcrk{ "cpf "ceewtce{ "qh"vj g"
f guki pgf "eqf g0

2. TgrxcpvVj ggtkgu

2.1. CNW'ko r ngo gpvcvkqp

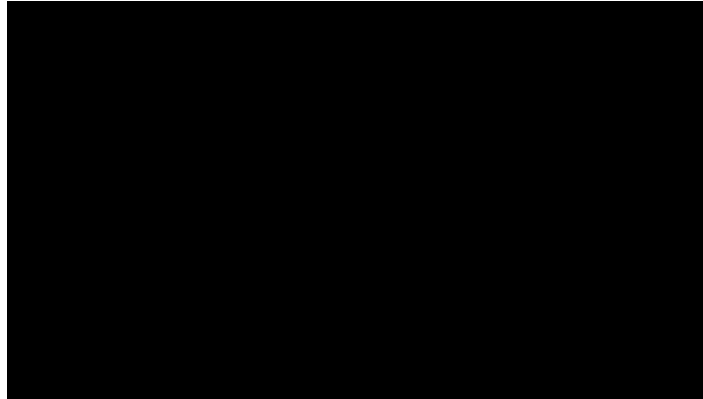


Figure 1. ALU schematic diagram (Photo/Picture credit: Original).

Hki wtg"3'ku"vj g"uej go cvle"CNWu{ o dqr0'kp"vj g"gli j v-dk'CNW."vj g'kp r wj cu"y q": -dk'qr gtcpf u."C"cpf "D."
cpf "c"6-dk'qr gtcvqt"eqf g0'Qr gtcvkqp"eqf g"ku"wg f "vq"vgm"vj g"CNW"y j cv'cevkuqpu"vq" f q."uwej "cu'cf f kkkqp."
uwdtcevkuqpu."gve0'Vj g"CNW"r tqeguugu"vj g'kp r wj tqwi j "vj g"ctkj o gve"wpku"cpf "vj g"nqi lecn'wpku."cpf "
qwr wu"vj g'tguwu0

2.2. Oqf wrg"Cpcn'uku

Table 1. Operation code and operation instructions.

Operation CODE	Operation instruction
0000	Addition
0001	Subtraction
0010	Multiplication
0011	Division
0100	Shift left

Table 1. (continued).

0101	Shift right
0110	Rotate left
0111	Rotate right
1000	AND
1001	OR
1010	XOR
1011	NOR
1100	NAND
1101	XNOR
1110	Comparator
1111	Comparator

Vcdng"3"ku"vjg"qr gtcvkqp"eqf g"qh"vjg"CNW"cpf"vjg"qr gtcvkqp"kpustwvkqpu"eqttgur qpf kpi"vjg"gtgwq"
t gur gevkgng". "vjg"6-dk/qr gtcvkqp"eqf g"y"gtg"uugf"vq"fgkpg"vjg"qr gtcvkqp"v{r g"}7_0Eqf g"htqo"2222"vq"2233"
ctg"ctkj o gvk"ecrewrvkqp."eqf g"2222"eqttgur qpf u"vq"cf f kkkp"ht"vjg"cf f kkkp"ecrewrvkqp"qh"vjg"CNW."
eqf g"2223"vq"uudvtcevkqp"ht"vjg"CNW"uudvtcevkqp"ecrewrvkqp."eqf g"2232"ht"vjg"o"wnkr rdecvkqp"ht"vjg"
CNW"o"wnkr rdecvkqp."cpf"eqf g"2233"vq"fkxkukqp"ht"vjg"fkxkukqp"ecrewrvkqp"qh"vjg"CNW0

Htqo"eqf g"2322"vq"eqf g"3323"ctg"nqi lecn"ecrewrvkqp."eqf g"2322"cpf"eqf g"2323"ctg"uj kkkpi."eqf g"
2332"cpf"eqf g"2333"ctg"tqcvkpi."htqo"eqf g"3222"vq"eqf g"3323"ctg"nqi le"i cvg"qr gtcvkqp"}8_0Eqf g"3332"
cpf"eqf g"3333"ctg"vy q"eqo r ctcvqtu0"eqf g"3332"ku"eqo r ctvkqp"qh"xcnwg."cpf"eqf g"3333"ku"eqo r ctvkqp"qh"
gs wcrk{0

3. Cnw/Fguki p'cpf 'Ulo wrvkqp'Y qtnhny

3.1. Ufwgo 'Fguki p

Fghkpg"lpr w'cpf"qwr w<: -dk/lpr w'C"cpf'D."6-dk/lpr w'CNW'a"Ugn": -dk/qwr w'CNW'a"Qw'cpf"3-dk/
qwr w'Ectt{Qw0

Fghkpg"vjg"lprvgo gf kvg"xctkcdng"CNW'a"Tuwn/vq"uvtg"vjg"tguwnu"qh"vjg"CNW"qr gtcvkqp0

Fghkpg"vq"r qtct{"xctkcdng"vo r."uugf"vq"uvtg"vjg"xcnwg"qh"C"r nu"D0

Cuuki p"vjg"CNW'a"Qw/qwr w/vq"vjg"CNW'a"Tuwn0

Vjg"vo r"y cu'cuuki pgf"cu"}3"=d2."Cj"-"}3d2."Dj 0

Cuuki p"vjg"vq"Ectt{Qw/qwr w/vq"vjg": vjg"dk/qh"vo r 0

Wug"vjg"ecug"ucvgo gpv"lp"vjg"cnyc{u"B":*, +drneni"vq"r gthqto"fgkhtgpv"qr gtcvkqpu"dcugf"qp"vjg"xcnwg"
qh"vjg"CNW'a"Ugn0

Hqt"gej"ecug."vjg"CNW'a"Tuwn/ku'cuuki pgf"vq"vjg"eqttgur qpf kpi"qr gtcvkqp"tguwn0

Ki"vjg"xcnwg"qh"CNW'a"Ugn"ecppqv'o cvej"cp{"ecug."vjg"ctkj o gvk"cf f kkkp"ku"r gthqto gf"d{"fghcwn"}9_0

Kp"vjg"ku"r tqlgev"y"eqo r rvg"vjg"ku"r tqlgev"vjg"tqi j"S wctwu"KK"cpf"O qf gnuko"eq-ulo wrvkqp0Htuwn". "y g"
wug"S wctwu"KK"vq"etgcvg"vq"pgy"r tqlgev"cpf"vq"pgy"fkpg"lp"vwp."ugrev"Xgtkqi"J FN."y tkg"eqf g"cpf"ucxg"
*fkpg"pco g"cpf"o qf wrg"pco g"uj qwf"dg"vjg"guco g+"vjg"gp"etgcvg"vq"pgy"fkpg"cpf"y tkg"VgunDgpej"eqf g"cpf"
ucxg"cu"cnwad0Chtg"vjg"eqf g"ku"y tkwgp."eqphki vtg"vjg"O qf gnuko"r cvj" "Vqqni" "Qr vkpu" "GFC"
Vqqni"Qr vkpu."cpf"eqphki vtg"O qf gnuko -Cngetc."vjg"gp"cuuqekcv"vjg"VgunDgpej"fkpg0Erneni"Cuuki po gpv"

Ugwki " "ulo wrvkqp."eqphki vtg"Xgtkqi"J FN."cpf"lpr w'vjg"VgunDgpej"pco g0Kp"Vqr"rgxgn'o qf wrg"qh"
VgunDgpej."gpvgt"vjg"pco g"qh"vjg"j ki j guvrgxgn'o qf wrg"lp"VgunDgpej 0Ugrev"vjg"fkpg"cnwa"vd0x"cpf"cf f."
vjg"gp"rrn"vq"eqo r rvg"vjg"VgunDgpej"fkpg"cuuqekcvkqp0Chtg"vjg"cv"eqo r rvg"cpf"twp"vjg"eqf g."vjg"gp"fkur r{"
vjg"y cxghqto u0

Hkpcn{"Ugrev"qqo"hwv"vq"fkur r{"cm'y cxghqto u"}: _0

3.2. Eqf g'ko rrgo gpvcvkqp

Vj g'eqf g'ku'y tksvp'cu'hqmny u0Hktunf. 'f ghkpg'vj g'kpr w'cpf 'qwr w' -dk/lpr w'C'cpf 'D. '6-dk/lpr w'CNWā "Ugn": -dk/qwr w'CNWā 'Qww"cpf "3-dk/qwr w'Ectt { Qw0Vj g'lpvgtō gf kcvg'xctkcdng'CNWā 'Tguwn'ku'y gp" f ghkpgf "vq"uxqtg"vj g'tguwn'qh'vj g'CNW'qr gtcvkqp0Vj gp" f ghkpg"C"vgo r qtct { "xctkcdng."wō r . "vq"uxqtg"vj g" xcnwgu'qh'c'r nnu'D0Vj g'CNWā 'Qww'qwr w'ku'y gp"cuuki pgf "vj g'xcnwg'CNWā 'Tguwn0Vj gp"cuuki p'wō r "vq" }3ød2."C; "- ")3ød2."D; 0Vj g'Ectt { Qw'qwr w'ku'y gp"cuuki pgf "vq"vj g": vj "dk'qh'wō r 0Vj gp"vug"vj g'ecug" uvcgo gpvlp'vj g'cny c { u'B "*, +dmqen'q'r gthqto 'f kthgtgpvqr gtcvkqpu'f gr gpf kpi "qp'vj g'xcnwg'qh'CNWā 'Ugn0 Hqt"gecej "ecug."CNWā 'Tguwn'ku'cuuki pgf "vq"vj g'eqttgur qp f kpi "tguwn'qh'vj g'qr gtcvkqp0H'vj g'xcnwg'qh' CNWā 'Ugn'f qgu'pqv'ō cvej "cp { vj kpi . 'ctkj o gvk'cf f kkp'ku'r gthqto gf "d { "f ghcwn0

3.3. Uko wrvkqp'ektewk'f kci tco 'ko rrgo gpvcvkqp

Vj g'S wctwu'KKuqhy ctg'lwrr qt w'uko wrvkqp'ektewk'f kci tco . 'uq'vj g'ko r rgo gpvcvkqp'qh'uko wrvkqp'ektewk' y kn'dg'dcugf "qp'S wctwu'KK; _."cpf 'Hki wtg'4"ku'y g'ektewk'f kci tco "qdvclpgf 'lp'S wctwu'KKuko wrvkqp0

Figure 2. Simulation circuit (Photo/Picture credit: Original).

3.4. Uko wrvkqp'y cxghqto

Upeg'S wctwu'KKcpf 'O qf grUko "ecp'dg'eqo dlpgr'uko wrvkqp."vj ku'r cr gt'cf qr w'vj g'eqo dlpgr'uko wrvkqp0 O qf grUko "Wugf 'hqt'vj g'uko wrvkqp'qh'vj g'y cxghqto u0

Figure 3. Simulation waveform (Photo/Picture credit: Original).

Hli wtg5'ku'vj g'Uko wrcvkqp'y cxghqto 'fki tco 'qh'CNW'htqo 'o qf gnko 'uqhy ctg0

4. Ej cnngpi g

4.1. Fkhkewnkgu'kp'vj g'rtqeguu'qh'cej kgxkpi ': -dk/CNW

3+"Fkhkewnkgu'y gtg"gpewpwtgf "kp"ko rigo gpvkpi "ZQT."PQT."PCPF"cpf"ZPQT"hwvkqp."cpf"y gtg"
hpcml "uqkgtf "d{ "eqpuwnkpi "f cvc0

4+"Y j gp"y tkkpi "eqf g"hggu."vj gtg"ctg"o cp{ "gtqtu."vj g"o qu"ku"u{pvcz"gttqtu0 Vj tqwi j "tgr gcvgf"
o qf kkecvkqp"cpf"eqo r krcvkqp."vj g{ "ecp"dg"uweeguu'wnl "eqo r krgf 0

5+"Chgt"eqo r rnvkpi "vj g": -dk/CNW."c"pgy "r tqdrgo "ku"j qy "vq"ej cpi g"vj g": -dk/CNW"vq"86-dk/CNW0
Chgt"vj kpnkpi "cpf"kp-f gr vj "ngctpkpi ."vj g'hqmqy kpi "o gj qf u'ctg'uwo o ctkt gf

Ej cpi kpi "cp": -dk/CNW"vq"86-dk/CNW'tgs wktgu'vj g'hqmqy kpi "uvgr u"]32_<

Gzr cpf "dk'y kf vj <Gzr cpf "gcej "dk'y kf vj "kp"vj g"CNW"vq"86"dku0Vj ku"d{ "eqr {kpi "cpf"hnkpi "ö2ö."
gpwtkpi "vj cv'gcej "qr gtcpf "cpf"tguwn'j cu'86"dku0

Gzr cpukqp"eqpvtqnluki pcn'F wq'vq"vj g'ej cpi g'qh'dk'y kf vj ."vj g"eqpvtqnluki pcn'qh'CNW'cnq"pggf u'vq"dg"
gzr cpf gf "ceeqt f kpi n{0Gpuwtg"vj cv'gcej "eqpvtqnluki pcn'o cvej gu'vj g'pgy "dk'y kf vj "qh'vj g"86-dk/CNW0

O qf kh{ "vj g"qr gtcvkqp"mqi le<"ceeqt f kpi "vq"vj g"CNW"qr gtcvkqp"mqi le"qh"86-dk"qr gtcpf "cpf"eqpvtqnl'
uki pcn'o qf kh{ "vq"cee qo o qf cvg"vj g'pgy "dk'y kf vj 00 cnq'uwg"vj cv'gcej "qr gtcvkqp"eqttgevn{ "ecrwrcvgu'vj g"
86-dk'f cvc"cpf "i gpgtcvgu'vj g"eqttgevt guwn0

Wrf cvg"ucwuu'hci "dk<"K'vj gtg"ctg"ucwuu'hci "dku'kp"vj g"qtki kpcn: -dk/CNW"uwej "cu'ectt { "hci ."] gtq"
o ctm'gve0:"vj g"hci "dk"pggf u'vq"dg"wrf cvgf "ceeqt f kpi n{ "vq"cee qo o qf cvg"vj g"tguwnu"qh"vj g"86-dk"
qr gtcpf 0

5. Eqpenwkqp

Kp"vj g"ueqr g"qh"vj ku"uwf {."cp": -dk/Ctkj o gvk"Nqi le"Wpkv"*CNW"j cu"dggp"o gkewmqwn{ "etchgf."
gpqo r cuukpi "c"o wnkwwf g"qh"qr gtcvkqpu"uwej "cu'cf f kkp."uwdtcevkqp."o wnk rkecvkqp."f kxkukqp."mqi kecn'
ngh" uj khv."mqi kecn' tki j v' uj khv."tqvcvg" nghv."tqvcvg" tki j v."QT."ZQT."PQT."PCPF."ZPQT."xcwng"

eqo r c t k u q p . " c p f " g s w e r k v { " e j g e n 0 V j g " r t g e k u k q p " c p f " t q d w u p g u u " q h " v j k u " : - d k " C N W " y g t g " e q p h k o g f " d { " c p c n { | k p i " v j g " t g u w n c p v " y c x g h q t o u 0 ' G p i c i k p i " k p " v j g " f g u k i p " q h " v j g " : - d k " C N W " g p t k e j g f " v j g " e q o r t g i g p u k q p " q h " f k i k c n i ' m i l e " e k t e w k v " f g u k i p " o g v j q f q n q i k g u " c p f " h q u v g t g f " c " o q t g " r t q h q w p f " i t c u r " q h " k p v t l e c v g " e k t e w k t { " e q p u t w e u 0 V j g " C N W u " f g u k i p " r t q e g g f g f " k p " c " u t w e w t g f " o c p p g t < d g i k p p k p i " y k j " c " h q w p f c v k q p " d c u g f " q p " v j g " C N W u " r t l p e k r n g u " c p f " h w p e v k p c r k k g u = " h q m y g f " d { " v j g " g u x c d r k u j o g p v " q h " v j g " f k i k c n i ' e k t e w k v " o q f w r g " c k n t g f " v q " q r g t c v k q p " k p u t w e v k p u = " c p f " e w n k p c v k p i " k p " c p " k p v i t c v g f " u k o w r c v k q p " w k k k k p i " d q v j " S w c t w u " v j g " U g e q p f " c p f " O q f g n U k o 0 ' X g p w t k p i " k p v q " v j k u " f g u k i p " f g g r g p g f " v j g " w p f g t u c p f k p i " q h " f k i k c n i ' m i l e " f g u k i p " c p f " j q p g f " v j g " u n k m u " t g r c v g f " v q " m i l e c n i ' e k t e w k v " e t g c v k q p 0 U v e j " c p " g p f g c x q t " j c u " w p f q w d v g f n " h q t v k k g f " v j g " h q w p f c v k q p " h q t " o q t g " c f x c p e g f " t g u g c t e j " c p f " g z r m t c v k q p u " k p " v j g " h g r f 0

Tghgtgpegu

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