GYj YfY'K YUh\Yf'5`Yfh. Bcfh\YUgh': UWYg < YUj m'FU]b'UbX': `Ug\': `ccX]b['F]g_g

GYj YfY'k YUh\Yf'ZcfYWUgh'Zcf'; i `Z'7ci bhm'UbX'Bcfh\YUgh'cb \Rightarrow bY'-z'&\$&) z'k]h\'f]g_g'cZ'ghcfa gz'Z'ccX]b[z'UbX'hcfbUXcYg"



; i `Z'7ci b hmž'l G5 '! '5g'h\ Y'k YUh\ Yf'Wcbh]bi Yg'hc'a U_Y
\YUX`]bYgž'fYg]XYbhg'UWfcgg'h\ Y'Bcfh\ YUgh'UbX'Gci h\ YUgh'UfY
ZUW]b['U'XUm'a Uf_YX'Vm'gYj YfY'k YUh\ Yf'UbX'\ YUj m'fU]bZU``"
5\W\cfX]b['hc': cl' K YUh\ Yfž'\ YUj m'fU]b'UbX'gYj YfY'ghcfa g'UfY
gYh'hc'UZZYWh'a]``]cbg'U`cb['h\ Y'YUghYfb'gYUVcUfX'hcXUmž'\$ bY'-ž
&\$&) "

: fca 'h\Y'; i `Z'7cUgh'hc'BYk 'Mcf_ž'gYj YfY'k YUh\Yf'h\fYUhg'`cca `Uf[Yž'k]h\'g][b]Z]WUbh'ghcfa g'U`fYUXm'k fYU_]b['\Uj cW]b'd`UWYg`]_Y'A]gg]gg]dd]'UbX'; Ycf[]Už'k\YfY'XYUX`m'gei U``g'\Uj Y'VYYbfYdcfhYX"'=b'U'XfUa Uh]WX]gd`Um'cZ'bUhi fY g'dck Yfž'C_`U\ca UYj Yb'gUk 'U'hcfbUXcž'k\]`Y'HYI Ug'ZUWYX'dck YfZi ``ghcfa g'k]h\k]bX'[i ghg'\]hh]b['%\$\$'a d\'UbX'\U]`'h\Y'g]nY'cZ'[fUdYZfi]h''i gh

K\Uhgʻcbʻh\Yʻ\cf]ncb3ʻ\nqgu]Xʻh\UhʻUʻbYkʻUfYUʻcZʻckʻdfYggifY]gʻghfYb[h\Yb]b[ʻUgʻ]hʻacjYgʻUWfcggʻ7UbUXUžʻdc]gYXʻhcʻ]adUWh h\YʻBcfh\YUgh"ʻ5ʻWc`XʻZfcbhʻghfYhW\]b[ʻZfcaʻh\YʻA]XkYghʻ]g YIdYWhYXʻhcʻVf]b[ʻh\ibXYfghcfagʻU`cb[ʻk]h\`\YUjmʻfU]bžʻfU]g]b[WcbWYfbgʻZcfʻZUg\`ZccX]b[ʻUWfcggʻai`h]d`YʻghUhYg"

GYj YfY K YUh\Yf Cj Yfj]Yk

 $\label{thm:def:ham:bold} H\Y'ghcfa 'XcYgb h'd`Um'ZUj cf]hYg/h\Y'h\fYUhg'fUb[Y'Zfca XUa U[]b['k]bX'[i ghg'hc'hcfbUXc'dcgg]V]`]h]Ygž'dUfh]W'`Uf`m']b'h\Y C\]c'J U``Ym'UbX'Bcfh\YUgh'''BC55'fYdcfhg'h\Uh'a]``]cbg'UfY'Uh f]g_'cZ'ZUg\'ZccX]b['Xi Y'hc'Ubh]W]dUhYX'hcffYbh]U``Xck bdci fgž k]h\'fU]b'fUhYg'dchYbh]U``m'\]hh]b['%!&']bW\Yg'dYf'\ci f'''H\Y'UfYUg Uh'\][\Ygh'f]g_'Zcf'ZccX]b[']bWi XY'dUfhg'cZ'DYbbgm`j Ub]U'UbX k YghYfb'hc'WYbhfU``BYk'Mcf_ž'k\YfY': `ccX'K UhW\Yg'UfY'U`fYUXm]b'YZZYWh''$

±0 'h\ Y 'Gci h\ Y Ughž'h\ Y 'g]hi Uh]cb 'fYa U]bg 'hfci V`]b[ž'mY h'h\ Y]bhY bg]hm c Z'h\ Y gY 'ghcfa g']gb h'Yl d Y WhY X 'hc 'a UhW\ 'h\ cgY 'c Z'fY WY bh k YY_g" 'Hc X Um'\ Ug'h\ Y 'a U_]b[g' Zcf 'gY j Y fY 'h\ i b X Y fghcfa g' Zfca 5`UV Ua U'hc'; Y cf[]Už'UZZY Wh]b['_Ym'W]h]Yg'`]_Y 'A cV]`Y ž A cbh[ca Y fmž'5h`UbhUž'Ub X '7 \ Uf`chhY"'7 Y bhfU`'A]gg]gg]dd]'Ub X 5`UV Ua U 'a Um'ZUWY 'h\ Y 'a cgh'g][b]Z]WUbh'ghcfa 'dchYbh]U`ž'WfY Uh]b[U'gYf]ci g'gUZY hm'Wcb WY fb 'Zcf'fYg]XYbhg']b 'h\ cgY'UfY Ug"

=a dUWh cb 7ca a i b]h]Yg

G]bW']hg']bWdh]cbž'h\]g'j U`i UV`Y'fYgci fW'\Ug'U``ck YX'i gYfg'hc YI d`cfY'ghcfa 'Yj Ybhg'Vm'XUhY'cf'`cWJh]cbž'U]X]b[']b'fYgYUfW fY[UfX]b[']b^ff]YgžYWcbca]W]a dUWhgž'UbX'Yj Yb'U[f]W'hifU`X]gUghYfg"'H\Y']bZcfa Uh]cb'gdUbg'Zfca '\u00edbi Ufm'\u00ed-) \u00edbi hc': YVfi Ufm &\u00ed\u00edbi a U_]b[']h'Ub']bj U\u00edi UV\u00edY'UggYh'Zcf'fYgYUfW\u00edYfg'UbX'h\\Yk\u00edbi a'U\u00edbi a'U\u00edbi \u00edbi a'U\u00edbi a'U\u00edbi a'U\u00edbi a'Ub\u00edbi a'U\u00edbi a'Ub\u00edbi a'Ub\u0

5g'h\Y'ghcfa g'UddfcUW\ž'h\Y'Wca a i b]hm']g'i f[YX'hc'ghUm i dXUhYX'UbX'dfYdUfYX"'H\Y'k Ufb]b[g'UfY'WYUfž'UbX'bck ']g'h\Y h]a Y'hc'hU_Y'UWh]cb'hc'_YYd'ZUa]`]Yg'gUZY'Ug'bUhi fY'fYa]bXg'i g cbWY'U[U]b'cZ'\Yf'i bdfYX]WhUV'Y'a][\h"

8 YhU]`g	
Cfh	; i`Z'7cibhmžlG5
EiY``Yb	• k k k "Zcl k YUh\Yf"Wca
	• k k k "b WX W'bcUU"[cj
	• k k k "₩]a UhY"[cj

6Ygi WXYb G]Y i bg Ui Z a Y]b!k]Yb bYh