7\YYfg'hc'7]hfi g''; fcj Y'Fcchg'6fYk]b[7Y`YVfUhYg': `cf]XU g'7]hfi g'@Y[UWm



K]bhYf'< Uj Ybž: `cf]XUž'I G5 '! +b'h\Y'\YUfh'cZ'K]bhYf'< Uj Ybž: `cf]XUž'h\Y'YW\cYg'cZ'U'cb\W!h\f]j]b['W]hfi g']bXi ghfm'V`YbX\Ufa cb]ci g`m'k]h\'h\Y'j]VfUbh'WfUZh'VfYk]b['g\W'bY'' >cgYd\\8i b\Ua ž'U'h\]fX![YbYfUh]cb': `cf]X]Ub'UbX'Zci bXYf'cZ'; fcj YFcchg'6fYk]b['7ca dUbmž']g'cb'U'a]gg]cb'hc'dfYgYfj Y'h\]g'`Y[U\M\k\]`Y'Y'Yj Uh]b['`c\W'`ZUj cfg'h\fci [\'\]g'Ufh]gUb'VYYfg''8i b\Ua žk\c'`Ui b\W\YX'h\Y'VfYk Yfm']b'&\%'* 'UZhYf'fYhi fb]b['\ca Yž'Vf]b[gU'XY\WUXY'cZ'\ca Y'VfYk]b['YI dYf]Yb\W'hc'h\Y'hUV`Yž'YI dYfh`m]b\\cfdcfUh]b['\W]hfi g'UbX'ch\Yf': `cf]XU'U[f]\W'`hi fU`'dfcXi \Mg']bhc\]g'\WfYUh]cbg''

CdYfUh]b['ci h'cZ'U'W\Ufa]b['%-(\$g'W]hfi g'hfU]`Yfž'; fcj Y'Fcchg 6fYk]b['fYZ'YWhg'U'd]YWY'cZ'`cWU`'\]ghcfm'k\]`Y'Ya d`cm]b['UVci h hYb'dUgg]cbUhY']bX]j]Xi U`g"'H\Y'VfYk Yfm'dfcXi WYg'fci [\`m'%ž\$\$\$
VUffY`g'cZ'VYYf'Ubbi U``mž'cZ'k \]W\ '&\$i \ 'ZYUhi fYg'fYZfYg\]b['W]hfi g
]b[fYX]Ybhg"'Gca Y'cZ'8i b\Ua g'bchUV`Y'VfYk g']bWi XY'h\Y'Zfi]hm
F]bX'UbX'G\]bYž 'U'[fUdYZfi]h'UbX'hUb[Yf]bY'k \YUh'VYYfž'UbX
h\Y'nYghm' GYYX'Gd]hhYfž 'a UXY'k]h\'JU`YbW]U'cfUb[Yg"'Ch\Yf
Wfck X!d`YUgYfg']bWi XY'h\Y' DYUW\'6`cbX'5`Yž 'WfUZhYX'Zfca
dYUW\Yg'gci fWXX'Zfca '7Ua Y``]U'; fcj Ygž'UbX'h\Y'YI ch]W
<UVUbYfc'\D5 'k]h\'U'gd]Wm'hk]gh'Zfca :`cf]XU'\UVUbYfcg"

7]hfi g`FYj]jU`

8 i b\Ua g'Wca a]ha Ybh'hc'\cbcf]b['h\Y'W]hfi g']bXi ghfm']b'7YbhfU`: `cf]XU']g'Yj Yb'a cfY'g][b]Z]WUbh'U[U]bgh'h\Y'VUW_Xfcd'cZ'fYWbh ghUh]gh]Wg"'H\Y': `cf]XU'8YdUfha Ybh'cZ'5[f]W'`hi fY'UbX'7cbgi a Yf GYfj]W'g'fYWbh`m'fYdcfhYX'h\Uh'W]hfi g'dfcXi Wh]cb']b'h\Y'ghUhY'Zcfh\Y'&\$&'!&('gYUgcb'fYUW\YX'&\$"&a]``]cb'Vcl Ygž'a Uf_]b['U''&lbWfYUgY'Zfca'h\Y'dfYj]ci g'mYUfž'k\Yb']h'\UX'hchU`YX'%, "%'a]``]cb Vcl Yg"'H\Y'Z][i fYg']bX]WUhY'fYg]`]YbW'ž'YgdYW]U``m']b'cfUb[YdfcXi Wh]cbž'k\]W\'UWWci bhg'Zcf'U'k\cdd]b[', -1 'cZ'h\Y'hchU`W]hfi g'ci hdi h"

 $\label{thm:condition} $$H\Y''hcd!dYfZcfa]$ b['W]hfig!dfcXiW]b['Wcibh]Yg'fYZYWh'U'X]j YfgY $$U[f]W'hifU```UbXgWUdY''`Dc`_'7cibhm'hcdg'h\Y'`]gh'k]h\''', *'a]``]cb $$VclYgž'Zc``ckYX'WcgY`m'Vm'8YGchc'UbX'<][\`UbXgž'k]h\'giVghUbh]U``Wcbhf]Vih]cbg'Zfca'<YbXfm'UbX'<UfXYY'Wcibh]Yg'' $$Hc[Yh\Yfž'h\YgY'Z]jY'Wcibh]Yg'UWWcibh'Zcf'U'ghU[[Yf]b['+%'cZ':`cf]XUg'hchU``W]hfig'dfcXiWh]cbž'U'ZUhY'h\Uh'8ib\Ua'U]ag'hc\cbcf'h\fci[\'\]g'VfYkYfm'$

7fUZh]b[7caaib]hm7cbbYWh]cbg

K\UhigYhgi; fcj YiFcchgiUdUfhi]gi8ib\Ua gidYbW\UbhiZcf
Wcaaib]hmiWciiUVcfUh]cb"i6midUfhbYf]b[ik]h\iicWUii[fckYfgži\YYybgifYgih\Uhih\Yi]b[fYX]YbhgiUfYiUgiZfYg\iubXiicWUiimigcifWXXiUgdcgg]ViY"iH\YiVfYkYfmiWciiUVcfUhYgik]h\iicicf]XUi7\Ya]WUii7c"ihcigYiW]hfiginYghi]biYb\UbW]b[iZUjcfgik\]iYifYaU]b]b[iWcaa]hhYXhcigcifW]b[iYjYbiacfYiicWUii]b[fYX]Ybhgi]bih\YiZihifY"iH\YYggYbWYicZi8ib\UagiVfYk]b[id\]icgcd\mifYjcijYgiUfcibXWcaaib]hmidf]XYži\Yf]hU[YžUbXih\YiUfhicZiWfUZh]b[iVYYfgih\UhWiiYVfUhYiiicf]XUgiU[f]WiihifUiiVcibhmi

A cfYcj Yfž'h\Y'VfcUXYf'W]hfi g'a Uf_Yh'\Ug'gYYb'U'g`][\h'Xfcd']b
ZfYg\'Zfi]h'Yl dcfhgž'k \]W\'hchU`YX'' -) ž\$\$\$'WUfhcbgž'Xck b'Zfca
(*+ž\$\$\$']b'h\Y'dfYj]ci g'gYUgcb"'6Y`[]i a 'fYa U]bg'h\Y'`YUX]b[
XYgh]bUh]cb'Zcf'[fUdYZfi]h'Yl dcfhgž'k \]`Y'7UbUXU'hU_Yg'h\Y'Wfck b
Zcf'cfUb[Yg'UbX'hUb[Yf]bYg"'\dcfhgž'k\]`Y'7UbUXU'hU_Yg'h\Y'Wfck b
[U``cbg'cZ'ZfcnYb'WcbW'bhfUhYX'cfUb[Y''\dagger]W'\kYbh'UVfcUX']b'h\Y
gUa Y'dYf]cXž'XYa cbghfUh]b['h\Uh': `cf]XU g'dfcXi Whg'gh]```fYUW\
ZUf'UbX'k]XY"

±0:8ib\Ua g'YmYgž'Yj Yfm'd]bh'dci fYX'Uh'; fcj Y'Fcchg'6fYk]b[
W\UbbY`g'h\Y'YggYbW'cZ': `cf]XU g'U[f]W' `hi fU`'fcchgž'YW\c]b['h\Y
hU`Yg'cZ'h\Y'dUgh'k\]`Y'Zcf[]b['U'dUh\'Zcf'h\Y'Zi hi fY"'5g'\Y'gUmgž
H\YfY g'gca Yh\]b['hc'VY'gU]X'Zcf'gi ddcfh]b['`cWU`ž'UbX'h\fci [\\]g'YZZcfhgž'\Y g'bch'f gh'VfYk]b['VYYf/'\Y g'dfYgYfj]b['U'dUfh'cZ': `cf]XU g'\]ghcfm"

8 Y hU]`g	
Cfh	K]bhYf' <uj `cf]xuž'i="" g5<="" th="" ybž':=""></uj>
EiY``Yb	WYbhfU`Z`cf]XUU[bYk g"Wca
	W]hfi g]bXi ghfm"bYh

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