=b^i fYX^Cf]c`Yg`GhUfg`GYh`Zcf`7ca YVUW_. ?Ym`l dXUhYg`Zcf:: Ubg

9 | d`cfY`h\Y``UhYgh`A @6`]b^\fmi dXUhYg`Zfca `GUfUgchUž XYhU]`]b['d`UmYf`ghUhi gYgž`fYWcj Yfm`h]a Y`]bYgž`UbX i dWca]b['fY\UV`Ugg][ba Ybhg"



5a cb['h\Y'dfca]bYbh'bUa Ygž'WUhW\Yf'5X`Ym'Fi hgW\a Ub']g
fYWcj Yf]b['Zfca'U'`YZh'cV`]ei Y'ghfU]bž'\Uj]b['`UbXYX'cb'h\Y
]b'\fYX'`]gh'fYhfcUWh]j Y'hc'\ddot\bY\&\\$"'9bWci fU[]b[`mž'Fi hgW\a Ub
dUfh]W]dUhYX']b'`]j Y'VUhh]b['dfUWh]WYg']b'GUfUgchU'cb'\ddot\m'%-'UbX
&\\$'UbX']g'g`UhYX'hc'Wca a YbWY'\]g'fY\UV'Ugg][ba Ybh'k]h\'Hf]d`Y!
5'BcfZc`_'cb'\ddot\m'&\&z'k]h\'\cdYg'Zcf'U'fYhi fb'Vm'`UhY'\ddot\m'\m'

Gca Yk \Uh``YggʻZcfhi bUhYʻ]gʻd]hWkYfʻ? m`Yʻ6fUX]g\žk\c g
fYWcjYf]b['Zfca 'Hca a m'xc\b'gi f[Yfm"'< Y gʻgWkYXi `YXʻZcf`\]g
Z]fghʻfY\UVʻghUfhʻZcf'<][\!5°5VYfXYYbʻcb'; `m'&('UZhYfʻh\fck]b[
hk c']bb]b[gʻcZ'`]j Yʻ6D']bʻGUfUgchUʻcb'; `m'%- "'<]gʻUbh]W]dUhYX
fYhi fbʻ]gʻgYhʻZcf'5i [i ghžk \]Wkʻg\ci `X'dfcj]XYʻa i Wk!bYYXYX
fY]bZcfWYa Ybhgʻhc'h\Y'd]hWk]b['ghUZZ''

=b 1 fYX UbX FYhi fb]b[D`UmYfg

H\Y'a YX]WU``bYk g`]gb h`U```[`cca mž`\ck Yj Yf"'Ch\Yf`d`UmYfg`]b`h\Y
fYWcj Yfm'a]l ']bWi XY'**7UXY'Dcj]W**\Z'k\c']g'Yl dYWhYX'VUW_'Vm
`UhY'\$\innhc'YUf`m'5i [i gh'UZhYf'gi ZZYf]b['Zfca '`YZh'\]d
]bZUa a Uh]cb"'<Y'fYWWbh`m'a UXY'U'fY\UV'ghUfh'Zcf'<][\!5
5VYfXYYb'UbX'd]hW\YX'Zcf'Hf]d`Y!5'BcfZc`_'cb'\$\inn%-\Z'k]h\
Ubch\Yf'ghUfh'cb'h\Y'\cf]ncb"

 $\label{thm:condition} 5bch\Yf'WUhW\Yfz'7\UXk\]W_'Hfca\dz']g'U`gc'YmY]b['U'fYhi\fb'Vm'UhY'$\in m'Zc``ck]b['`ck Yf'VUW_'h][\hbYgg'''< Y'\Ug'VY[i\b'\]g'fY\UVUgg][ba\Ybh'k]h\'G]b['Y!5'8Y`a\Ufj\Uz'k\YfY'\]g'dYfZcfa\UbW'gfYa\U]b'WcgY`m'a\cb]hcfYX/'\Y'k\Ybh'%!Zcf!''cb'$\in m'%, 'Vi\h\ghfi[['YX'Uh'h\Y'd`UhY'h\Y'bY]\h'XUm''$

D]hWXYf'NUWX '9Z`]b']g'cb'h\Y'j Yf[Y'cZ'fYhi fb]b['Ug'k Y``"5ZhYf fYWcj Yf]b['Zfca 'U'`ck Yf'VUW_'ghfU]bž'\Y'a UXY'U'fY\UV'ghUfh'Zcf 8ci V`Y!5'7\YgUdYU_Y'cb'\$\im\%' 'UbX'd]hWXYX'gi WWYggZ ``m']b'h\Y'\cf]XU'7ca d`YI'@YU[i Y'cb'\$\im\%, ž'VY]b['WYUfYX'Zcf'UWh]cb Xi f]b['h\Y'k YY_'cZ'\$\im\%"

Cb[c]b['FYWcjYf]Yg'UbX'FcghYf 5X'i gha Ybhg

5XX]h]cbU``mž'F mUb'A ci bhWUgh`Y']g'Xi Y'VUW_'gccb'UZhYf cj YfWca]b['U'f][\h'\Ua ghf]b['ghfU]b"'< Y'gi ZZYfYX'U'; fUXY'& ghfU]b'Vi h'\Ug'VYYb'hU_]b['Uh!VUhg']b'GUfUgchU'cb'\$\in \m'%-'UbX']g gWXYXi `YX'Zcf'fY\UV'k]h\'Hf]d`Y!5'BcfZc`_'cb'\$\in \m'&&ž'U]a]b['Zcf'U <ck Yj Yfž'h\YfY'UfY'gh]```g][b]Z]WUbh'WcbWYfbgž'dUfh]W' `Uf`m
fY[UfX]b['h\Y']b'\ f]Yg'hc'; Ufm'G 1/2b W\Yn'ff][\h'_bYY'gdfU]bž
YI dYWhYX'hc'a]gg', !%\$'k YY_g\'UbX'\scf[Y'A UhYc'f\YZh'\Ua ghf]b[
ghfU]bž'g]XY`]bYX', !%&'k YY_g\'''H\Y]f'UVgYbWY'Wci `X'`cca '`Uf[Y'Zcf
h\Y'hYUa 'Ug'h\Ym'gYY_'hc'a U]bhU]b'Wca dYh]h]j YbYgg'h\fci [\'h\Y
gYWcbX'\U`Z'cZ'h\Y'gYUgcb"</pre>

K]h\ 'h\ Y'cb[c]b[']b '\ fm'i d X UhY gž']h g']b hY fY gh]b['hc'bchY'h\ Y g]hi Uh]cb'UWfcgg'h\ Y'`YU[i Y'Ug'k Y``'': cf']bghUb WYž'DY hY'5`cbgc'cZh\ Y'B Yk 'Mcf_'A Yhg']g'XYU`]b['k]h\ 'U'f][\h'\UbX'Wcbhi g]cb'h\ Uh_\Ydh'\]a 'ci h'cZ'h\ Y'`]bYi d'cb'*\`m'&\\$ž'k\]`Y'd]hW\ Yfg'A UI'? fUb]W_\UbX'8 YXb]Y`'Bi bYn'UfY'YmY]b['Hca a m'\%\b'gi f[Yf]Yg'Xi Y'hc Y`Vck']ggi Yg'\textbf{GDB}'\][\`][\hg''Cb'h\ Y'Z]d'g]XYž'h\ Y'YbWci fU[]b[bYk g'cZ'GhUf`]b['A UfhY g'fYWcj Yfm'Zfca'_bYY']ggi Yg'dfcj]XYg\cdY'Zcf'Vch\'\]a 'UbX'h\ Y'A Yhg'Ug'h\ Ym`cc_'U\ YUX'UZhYf'h\ Y'5``! GhUf'VfYU_"

H\Y'Cf]c`Yg`'cifbYm'h\fci[\'h\]g`]b^\fm'dfcbY'gYUgcb'k]``VYk UhW\YX'WcgY`m'Vm'ZUbg`YU[Yf'Zcf'h\Y]f'ghUfg'hc'fYhifb'UbXdfcdY`'h\Y'hYUa'hc'giWWgg']b'h\Y'Wca]b['acbh\g"'K]h\'YUW\fY\UV'Ugg][baYbh'UbX'fYWcjYfm'idXUhYž'\cdY'gdf]b[g'YhYfbU`'Ug6U`h]acfY'`cc_g'hc'`YUjY'h\Y']b^\fm'kcYg'VY\]bX"

8 Y hU]`g	
Cfh	GUfUgchUž: `cf]XUž1 G5
EiY``Yb	• k k k "a `V "Wca
	• k k k "Ygdb"Wca

6 Ygi W Yb G Y i bg Ui Z a Y]b!k]Yb "b Yh