

# **SOCW4018**

GcWJU`K cf\_'DfUWJWY'@YjY`'('D`UWYaYbhi6



# 7ci fgY<sup>·</sup>Cj Yfj ]Yk

## GhJZZ 7 cbhJWh 8 YhJ] `g

## 7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]lm	@cWUh]cb	D\cbY
>Ybb]ZYf GHYd\YbgYb	<u>*ghYd\YbgYb4 i bgk "YXi "Ui</u>	A cbXUm%\$Ua ! %*Ua		

## 7ci fgY 8YW] g

### I b ] hg c Z 7 f Y X ] h %

### Gi a a UfmcZh\Y'7ci fgY

Mci f ZbU''d'UWa YbhU'`ck g'mci 'hc'Vf]b[ 'hc[Yh\Yf'h\YcfYh]WD''UbX'g\_]`g'VUgYX''YUfb]b[ ']b'U'dfUWf]WW gYht]b[ "'Mci 'k ]```VY'`]b\_YX'k ]h\ 'U'ei U']ZJYX'gcW]U'`k cf\_Yf']b'U'\i a Ub'gYf] ]W'g'U[YbWhcZYf]b[ 'dfUWf]WW VUgYX''YUfb]b[ ž]b'UVWcfXUbWW'k ]h\ 'h\Y'55GK 'DfUWf]W''GHUbXUfXg" H\]g''YUfb]b[ 'Yl dYf]YbW' ]g'gi ddcfh'X VmgcW]U'`k cf\_'gi dYf] ]g]cb'dfca ch]b[ 'Wf]h]WU'`fYZYWf]cb/]hk ]```[i]XY'mci 'h\fci [\'U'XYj Y'cda YbhU'`dfcW'gg ZcW'g]b[ 'cb'\_bck 'YX[Yž'g\_]``g'UbX'] U'i Yg'fY'Yj Ubhhc'h\Y'gcW]U'`k cf\_'dfcZYgg]cb"'D`UWa YbhU'`cWUh]cb']g a UbU[YX']b'Wcbgi 'hUh]cb'k ]h\ 'mci ž'gc'h\Uh]hdf]cf]hjgYg'mci f'`YUfb]b[ '[cU'g'UbX'dfcZYgg]cbU'`]bhYfYghg" D'UWA Ybhg'cWW f']b'X]j YfgY'WcbhYl hg'cZdfUWf]WY'gi W\ 'Ug'\cgd]hU'gz'ghUhY'UbX'ZYXYfU''[cj Yfba Ybh XYdUfha Ybhgz'UbX'bcb![cj Yfba YbhWca a i b]hmVUgYX'cf[Ub]gUh]cbg"'@Yj Y``('d'UWYa Ybhg']bWi XY cddcfhi b]hJYg']b'fi fU''UbX']bhYfbUh]cbU`'gYht]b[ gGcW]U''k cf\_']bhYfj Ybh]cbg'a Um]bWi XY'dc`]Whz'fYgYUfW\Z Wci bgY``]b[ žWJgY'k cf\_'UbX'Wca a i b]hmk cf\_"'Mci 'k ]``XYj Y'cd'[YbYfU''gcW]U''k cf\_'g\_]``gz'hfUbgZYfUV'Y 'hc U``'gcW]U''k cf\_'WcbhYl hg''

H\Y`d`UWfa YbhWca df]gYg`(+`UHYbXUbWf`XUmg`fl &+`\ci fgŁ'UbX`]g`[YbYfU``mi bXYftU\_Yb`Zci f`XUmg`dYf k YY\_`]b`HYfa `' "`H\Y`d`UWfa Ybh]g`UWWca dUb]YX`VmU`gYf]Yg`cZ±bH/[fUh]cb`GYa ]bUfg`h\Uhgi ddcfh'UbX Wca d`Ya Ybhmci f`Z]Y`X`VUgYX``YUfb]b[žk]h\`Ub`Ya d\Ug]g`cb`h\Ycfm\dfUWf]Wf`]bH/[fUh]cbžWf]h]WU``gcW]U` k cf\_'UbX`Wf]h]WU``fYZYWf]cb"

H\]g`Wci fgY`]g`DUfn6`cZmci f`Z]bU`: ]Y`X`9Xi WUf]cb`d`UWYa Ybhž`Wca a YbWYX`]b`HYfa '&k\]W\`k]``Wcbf]bi Y i bh]``mci `\Uj Y`Wca d`YhYX`h\Y`fYei ]g]hY`bi a VYf`cZ\ci fg`]b`HYfa '' "`Mci f`[ fUXY`Zcf`Vch\`Wci fgYg`k]``VY Z]bU`]nYX`Uhih\Y`Wca d`Yh]cb`cZh\]g`Wci fgY"

7 ci fgY @YUfb]b[ 'Ci hWca Yg

%" \delta hY [fuhY 'gc Wu\'k cf ' bck \YX[Y 'hc 'YZZY Wh] Y \m'ubu\mag

"%"····(+"UHYbXUbWY"XUmq"fl&+"\cifqL"Uhmcif"U"cWUHYX"U[YbWhZcf"@YjY"("D"UWYaYbh

"&"'''C bY \ci f'dYf'k YY\_'gi dYfj ]g]cb'Uhh\Y'U[YbWnk]h\ 'mci f': ]Y'X'9Xi WUhcf'fgi dYfj ]gcf\?"'H\]g']g ghfi Wn fYX'UW\cfX]b[ 'hc'Ub'U[YbXU'dfYdUfYX'Vmmci 'UbX'VUgYX'cb']ggi Yg'\overline{T}ca 'mci f'\ci fbU''UbX'k f]h\Yb UbU'mgYg\#Ydcfrg'cb'mci f'k cf\_'k]h\'U[YbXU']h\Ya g'UXXYX'Vmmci f': ]Y'X'9Xi WUhcf"'5hd'U\Wa Ybhg'k]h\'bc cb!g]h\'gc\y\underline{T}'gi dYfj ]g]cb'gh XYbhg'dUfh\\y\underline{T}\y\underline{T}\y\underline{T}\y\underline{T}'\underline{T}\y\underli

" "" Mci f'XU] mX]UfmUbX k YY\_mDfUW\\W >ci fbU`"

·( "····Mci f'A ]X!D`UWYa Ybhj ]g]h

") "·····Mci f··A [X·UbX: ]bU`D`UWYa YbhF Ydcfhq:XYj Y`cdYX]b Wcbgi `HUhJcb'k ]th th Y: [Y`X'9Xi WUhcf"

·\*"···≠bhY[fUh]cb·GYa]bUfg·Uhi b]j Yfg]hmiXi f]b[ˈd`UWYa Ybhžk\YfY`k cf\_`k]``VY`gYhUbX`h]a Y`U``cWUhYX`Zcf`]hg Wca d`Yh]cb"

SOCW4018 // Term 3, 2022 // published at 17-08-2022 © UNSW Sydney, 2022

5ggYgga Ybh'tUg_	K Y][ \h	8iY'8UHY	7 ci fgY @YUfb]b[ Ci HWca Yg 5ggYggYX
%"A]X!D`UWYaYbhJ]g]h	%) ၊	Bichi5dd`]WUV`Y	%ž'&ž' <sup>†</sup> ž'( ž'* ž'+ž'%%
&"'A ]X'D`UWYa YbhF Ydcfh	&) ı	8Um") cZmci fidiUWYa Ybh	

- A U]bHJ]b'Wca a i b]WUH]cb'VYHk YYb'H\Y'i b]j Yfg]hm'UbX'H\Y'd'UWYa YbH'
- 5gg]ghk ]h\ X]ZZ]W\ h]Yg Uf]g]b[ ']b h\ Y 'd \UWa Ybh'

#### 7 cbhYbh'cZhXY'J]g]h

- Gh XYbhDfYgYbHJhcb fbYY [i]XY`]bY VY`ck Ł"
- 8]gW/gg]cb~cZh\Y~@YUfb]b[~7cbhfUWh[cU~gz~h]a YZfUa Yg~UbX~dchYbh]U~ci hWca Yg"
- 9I d`cfUljcb'cZh\Y'bUli fY'UbX'`Yj Y``cZhUg\_g'i bXYfhU\_Yb"
- FYj]Yk cZgh XYbhdfc[fYgg Xi f]b[ 'd`UWYa Ybh'
- 5bU`mg]g'cZg\_]``'XYj Y`cda Ybh'
- 5dd`]WUhjcbcZh\YcfmhcdfUWj\W"
- 8 ]gW gg]cb cZh\Y a cXY``UbX ei U`]mcZgi dYfj ]g]cb Yl dYf]YbWYX"
- 5ggYgga YbhcZgh XYbhg dfc[fYgg Vm: ]Y X 9Xi WJhcf UbX @JU]gcb Hi hcf"
- 5XX]hjcbU``]ggi Ygž']bWi X]b[ 'dYfgcbU``]ggi Ygž']XYbhjZjYX'Vmghi XYbhž': ]Y`X'9Xi WJhcf'UbX#cf'@]U]gcb Hi hcf"

- Cih]bY'h\Y'Huq\_q'mci'\UjY'VYYb']bjc'jYX']b'UbX'h\Y'q\_]``q'mci'\UjY'VYYb'XYjY`cd]b[
- CihìjbY'h\Y'cfYhjWU``]XYUg'mci '\Uj Y'VYYb`XfUk ]b['cb'UbX'\ck'h\Ym\Uj Y']bZi YbWYX'mci f'k cf\_!
  ]XYbhjZm'WcbWYdhg'Zca 'mci f'i b]j Yfg]hm'Wci fgYgžff]bWi X]b['dfUWhjWYžfYgYUfW\'UbX'dc`]Wmgi VYWhgŁ
  h\Uhi]bZcfa 'mci f'k cf\_
- 8Ya cbghfUhY`\ck 'mci 'UfY'h\]b\_]b[ 'WcbWYdh U``mUVci hih\Y'k cf\_'mci 'UfY'Xc]b[ 'Vm[]j ]b[ 'Uh``YUgh cbY'Yl Ua d`Y'cZmci f'ck b'Udd`]WUhcb'cZh\Ycfm'hc'dfUWYWY
- ; ]j Y'Uh`YUghcbY'YI Ua d`Y'cZ'\ck 'mci f'i b]j Yfg]hm'Wci fgYgž']bWi X]b[ 'dfUWf]WYž'fYgYUfW\'UbX dc`]Wngi VYWg']bZi YbWY'mci f'k cf\_
- Cih]bY'h\Y'gidYfj]g]cb'UffUb[YaYbhg'UbX'X]gW'gg'\ck'h\]g']g'dfc[fYgg]b[ž']bWiX]b['Ubm W\Ub[Yg'h\Uhmci'h\]b\_'a UmbYYX'hc'VY'a UXY"

 $\begin{tabular}{ll} $ \begin{tabular}{ll} $ \begin{tabular}{ll}$ 

("'→XYbhjZmh\Y'HUg\_g'UbX'UfYUg'Zcf'h\Y'`YUfb]b['mYhhc'VY'UW\]Yj YX'Vmh\Y'YbX'cZh\Y'd`UWYa Ybh'''+bWi XY Wa a Ybhg'cb'\ck 'h\Y'U[YbWmWcbhYl ha Umdfca chY'cf'WcbghfU]b'h\]g'`YUfb]b['\' ^ Z\_dfž

) "'5hh\Y'WbWi g]cb'cZh\Y'@JU]gcb'J ]g]hh\Y'@JU]gcb'Hi hcf'k ]``Wba d`YhY'U'@JU]gcb'J ]g]hF Ydcfhik \YfY'h\Ym k ]``U]a hc'gi a a Uf]gY'h\Y'X]gW gg]cb'UbX'XYWJg]cbg'HU\_Yb"'H\Y'gh XYbhUbX': ]Y`X'9Xi WUhcf'k ]``VY'g\ck b h\Y'F Ydcfh'UbX'Ug\_YX'hc'g][ b']hhc'j Yf]Zmh\Y'WbhYbhg"'H\]g'F Ydcfh']g'\_Ydh'cb'h\Y'gh XYbhg'Z]'Y']b'h\Y'K cf\_! \\
\DhY[ fUhYX'@YUfb]b[ 'I b]h'UbX'Zcfa g'dUfh'cZh\Y'VUg]g'Zcf'Z]bU`'UggYgga Ybh'\' ^ Z\_dfž

D`YUgY'BchY. 'Ghi XYbhg'k]``'VY'Ug\_YX'hc'fYgW\YXi `Y'h\Y'a YYh]b[''UbX#cf'gi Va ]h'U'k f]hhYb''UbU`mg]g cZh\Y'UVcj Yž']Zh\Y'@]U]gcb'Hi hcf'UggYggYg'h\Y]f'dfYdUfUh]cb''UbX#cf'dfYgYbhUh]cb'cZh\Y]f'k cf\_'Ug i bgUh]gZUWhcfm'

#### 5qqYqqa Ybh& A JX D`UWa YbhF Ydcfh

GHUfhXUhY. '8 Um'&) 'cZmci f'd`UWYa Ybh 5ggYgga Ybh`Yb[ h\. '5ddfcl ]a UhY`m'&) \$\$"k cfXg"f&\$\$"k cfXg"dYf"gYWf]cbŁ Gi Va ]gg]cb"bchYg. 'H\Y'a ]X!d`UWYa YbhfYdcfh]g"Xi Y"cb"8 Um') 'cZmci f'd`UWYa Ybh' 8 i Y"XUhY. '8 Um') 'cZmci f'd`UWYa Ybh

H\Y`A]X!D`UWaYbhFYdcfhjg`Wad`YhYX`ig]b[`h\Y`gdYVJZJYX`hYad`UhY`UjU]`UV`Y`cb`AccX`Y''K\YbdfYdUf]b[`h\Y`A]X!D`UWaYbhFYdcfhž'h\Y`ghiXYbhg\ci`X`XfUZhWcbhYbhUbX`h\Yb`X]gW`gg`k]h\`h\Y]f`:]Y`X
9Xi\W\ncf`']b`UXj\Ub\W`cZh\Y`XiY`XUhY''\=\ndfYdUf]b[`h\]g`XcW`aYbhžghiXYbhfg`YUf`]Yf`d`UWaYbh
XcW`aYbhUh]cb`g\ci`X`VY`fYZYfYb\WX"`H\Y`:]Y`X`9Xi\W\ncf`U`gc`XfUZng`U`gY\Mjcb`cZh\Y`fYdcfhik\]W\`Zcfag
d\UfhcZh\Y`ghiXYbhfg`ZYYXV\U\U`cb`d`U\WaYbhdfc[fYgg"`H\Y`A]X!D`U\WaYbhFYdcfhjg`fYj]Yk\YX`Vmh\Y
@]U]gcb`Hi\ncf`k]h\]b`k\c`k\YY\_g`cZgi\Va]gg]cb"`=ZXYhYfa]bYX`nc`VY`cZgUhjgZU\\cfmei\U`]m`U`fg\UhjgZU\\cfmi

 $\label{thm:condition} We a a Ybhg Z ca `h Y : ]Y`X`9Xi WUhcf`]bX]WUhY`h Y`ghi XYbhg`dYfZcfa UbW`]g`i bgUh]gZJWcfm'`H\Y`XYUX`]bY`Zcf fYgi Va ]gg]cb`k ]```VY`U[ fYYX`i dcb`Vmh\Y`7ci fgY`7cbj Ybcfž'h\Y`@]U]gcb`Hi hcf`UbX`h\Y`: ]Y`X`9Xi WUhcf" H\]g`cddcfhi b]hm]g`Uj U]`UV`Y`hc`U```ghi XYbhg`Ybfc``YX`]b`GC 7K ($% "`H\Y`cddcfhi b]hmZcf`fY!gi Va ]gg]cb k ]```bch\Uj Y`Ub`YZZYWicb`K 5A `Ug`GC 7K ($% ']g`[ fUXYX`gUh]gZJWhcfm# bgUh]gZJWhcfmcb`m'`$ 

•

H\]g`]g`bch'U`Hi fb]h]b`Ugg][ ba Ybh

### 5XX]h]cbU`XYhJ]`g

H\Y`A]X!D`UWaYbhFYdcfh]g`aUbXUhcfmUbX`U`\ifX`Y`fYei]fYaYbh'`H\Y`A]X!D`UWaYbhFYdcfh]g`hc`VY

#### 5XX]h]cbU`XYhU]`g

#### H\Y'FYZYWNjY'>cifbU`

F YZYWIj Y '>ci fbu'`Yblf]Yg'UfY'lc'VY'k f]lhYb'XU]`mi]b'h\Y'Z]fghlk c'k YY\_g'cZd`UWla YbhUbX'h\Yb'Uh`YUgh lk ]W'U'k YY\_'i bhj`'UZ\fa ]X'd'UWla Ybhdc]bh''Hck UfXg'h\Y'YbX'cZh\Y'd'UWla Ybhgh XYbhg'UfY'Yl dYWlYX'hc Waa d'YhY'ci fbu`'Yblf]Yg'cbWl'U'k YY\_"'>ci fbu`'Yblf]Yg'UfY'lc'VY'k f]lhYb']b'd'UWla Ybhhja Y"'9blf]Yg'UfY'lc VY'Uh`YUgh'%\$\$'k cfXg"'=b'cfXYf'hc'ZJWl]hJhYfYZYWIjcb'h\Y'Zc``ck ]b['UfYUg'g\ci 'X'VY'UXXfYggYX.

%" Gh XYbhg dYfgcbu``fYUWhcbg hc Yj Ybhg cf Yl dYf]YbW g cb d`UW a Ybh'

&" ¥YbhZWUhcb cZdYfqcbU`UbX cf[ Ub]qUhcbU`i U`i Yq

 $%'' K \Uhi Ui Yg^{i}]Y^{i}VY^{b}X^{i}k \Uh^{Udd}YbYX3$ 

&" K \cqY'| U'i Yq'UfY'h\YqY3'

' " < ck 'Xc 'h\Ym'U`][ b 'cf'WcbZ]Whk ]h\ 'mci f'j U`i Yg3

' " 5bl ]Yf]Yg UbX X]Ya a Ug Yl dYf]YbWYX k \]`ghi bXYffU\_]b[ 'd`UW'a Ybh

("5 Wf]hJWU`YI Ua ]bUhJcb cZh\Y VfcUXYf]ggi Yg fU]gYX Zcf h\Y ghi XYbhVmd`UWa YbhHUg\_g

%" K \UhXcYg'h\]g'Yj YbhgUmUVci hh\Y'U[YbWmcf'[cjYfba Ybhdf]cf]h]Ygž

&" K \UhXcYg h\]g Yj YbhgUmUVci hgcWYmg cf cf[ Ub]gUh]cbU`j U`i Yg3

) "Dfc[fYgg'Ug'U'gh XYbhk cf\_Yf']b'h\Y'U[YbWm'

%" G\_]``q'i qYX'UbX'XYj Y`cdYX

&" H\YcfYh]WU`\_bck `YX[ Y'Udd`]YX

'": i fh\Yf'XYj Y`cda Ybh'hc'VY'UW\]Yj YX"

- \*" H\Y`XmbUa ]\Mg`cZk cf\_]b[ `fY`Uh]cbg\]dg`h\Uhih\Y`ghi XYbh\Ug`]bhYfU\MYX`k ]h\`fVch\`ghU\ZZUbX W]Ybhg\!"
- +" Gh XYbhqqY`ZYj U`i UhcbcZdYfZcfa UbWcbd'uWa Ybh

H\Y'FYZYWIJ Y'>ci fbU`'U``ck g'h\Y'gh XYbhhc'fYZYWicb'h\Y]f'd`UWa YbhYl dYf]YbWg'UbX'hc'a Ud'h\Y]f XYj Y`cda YbhUg'U'dfUWJhJcbYf'Xi f]b['h\Y'd`UWa Ybh''±iWb'U'gc'VY'i gYX'Ug'U``YUfb]b['hcc``]b'gi dYfj ]g]cb dfYdUfUJhcb'UbX'X]gW gg]cbž']g'i gYZ\``]b'h\Y'dfYdUfUJhcb'Zcf'h\Y'@JU]gcb'J ]g]hz'Ug'k Y```Ug'h\Y'A ]X'UbX'9bX! D`UW'a YbhFYdcfhg'''9bhf]Yg']b'h\Y'FYZYWIJ Y'>ci fbU``UfY'hc'VY'\_YdhVmh\Y'gh XYbhUbX'YI WYfdhg'WJb'VY fYei YghYX'hc'VY'j ]Yk YX'Vmh\Y': ]Y`X'9Xi WJhcf'UbX#cf'@JU]gcb'Hi hcf'Zcf'h\Y'di fdcgYg'cZhYUW\]b['UbX

## 5ggYgga Ybh). 9bX D`UWYa YbhF Ydcfh

GHJfhXUhY. '8 Um) ) 'cZmci f'd`UWa Ybh 5ggYgga Ybh`Yb[ h\. '5ddfcl ]a UhY`m&) \$\$'k cfXg'f&\$\$'k cfXg'dYf'gYWf]cbŁ 8i Y'XUhY. '@UghXUmcZmci f'd`UWa Ybh

5 Zcfa U``fYWcfX`cZh\Y`d`UWYa Ybh\ci fg`Wca d`YhYX`Vmh\Y`ghi XYbhcj Yf`h\Y`gYa YghYf''`H\Y`h]a Yg\YYh]g j Yf]Z]YX`Vmh\Y`: ]Y`X`9Xi WUhcf`k YY\_`m'`B chY`h\Uhh\Y`a ]b]a i a `fYei ]fYa YbhZcf`DUfh6`cZh\Y`@Yj Y``(d`UWYa Ybh]g`(+`XUmg`UbX'' &+`\ci fg`k \]W\`h\Y`h]a Yg\YYhg\ci `X`UWW fUhY`mfYZYWh''

.

H\]g`]g`bch'U`Hi fb]h]b`Ugg][ ba Ybh

#### 5XX]h]cbU`XYhU]`g

 $Gh XYbhg a Umi h] gY `U'hYa d`UhY `Zcf'h\Y'H] a Yg \YYh `Ug'dfcj ] XYX `Vmh\Y] f'cf[ Ub] gUh] cb z'cf z'U'hYfb UhY `mz'h\Uh k \] W\ ] g'dfcj ] XYX `] b `A cc X'Y'' `$ 

### 5 hmy b X Ub Wy F Yei ] f Ya Yb hg

H\Y`G\W\cc``cZGc\W\U``G\\\Yb\W\g`[i]XY`]b\Yg`cb`U\th\Yb\Ub\W\`UfY`Uj U]`U\`Y`Uh\\thdg.##gc\\\\U`g\\\Yb\W\g"Ufty"i bgk "YXi "Ui #gti XYb\tg#\Ygci f\W\g#\dc`]\\\\Yg![i]XY`]b\Yg#

Ghi XYbhgʻUfYʻYl dYWhYXʻhcʻVYʻfY[i`UfʻUbXʻdi bWhi U``]bʻUhhYbX]b[ʻU```WUggYgʻcZh\Y`Wci fgYg"·5```Udd`]WUh]cbg ZcfYl Ya dh]cbʻZfca ʻUhhYbXUbWYʻUhʻWUggYgʻcZUbm\_]bXʻa i gh'VYʻa UXYʻ]bʻk f]h]b[ʻhcʻ+bhY[fUh]cbʻGYa]bUfg 7 ci fgYʻ7 cbj Ybcf"

Mci 'UfY'fYgdcbg]V`Y'Zcf'\_YYd]b[ 'ffUW\_cZmci f'UfHYbXUbWY'Uhd`UWYa YbhUbX'WcbfUWf]b[ 'f\Y'GYb]cf'K = D`UWYa YbhC ZZJWYf'fGcW]U`'K cf\_Ł']a a YX]UHY`m]Zmci 'UfY'WcbWYfbYX'UVci hmci f'UfHYbXUbWY'fYWcfX'UbX']hg ]a dUWficb'mci f'UV]`]hmhc'Wca d`YfY'mci f'd`UWYa Ybhgi WWYggZl ``m'

 $H\Y'6UWXY`cf'cZGcW]U``K cf_'fk cbgŁ']g'UWWYX]hYX'Vmh\Y'5i ghfU`]Ub'5ggcW]Uh]cb'cZGcW]U``K cf_'k \]WX dfYgWf]VYg'h\Uh'U``ghi XYbhg'cZgcW]U``k cf_'a i ghWca d'YhY'$$$'d'UWYa Ybh\ci fg'k ]h\ Uddfcdf]UhY$ 

1	

- 'GYdhYa VYf		
K YY_').'%\$'CWvcVYf'! %('CWvcVYf	GYa ]bUf	H\Y`Zci fh\`±bhY[fUh]jY`GYa]bUf`k]``VY`\Y`X`cb : f]XUm'%(h\`CWhcVYf
		H\YgY`gYa]bUfg`k]```VY`fi b`Ug`ga U``Yf`[fci d gYa]bUfg`fc`U``ck 'Zcf`YI d`cf]b[ 'gffYb[f\g`UbX W\U``Yb[Yg`cZd`UWYaYbf'`D`YUgY`W\YW_`k\Uh WUgg`mci 'UfY`Ybfc``YX`]b
		: f]XUm-!%⁄ž! A Uhh\Yk g'%\$)
		%%1%1"A Uh\Yk g"%\$)
		&!( '! 'Ncca
K YY_"%\$."%( 'Bcj Ya VYf !'% 'Bcj Ya VYf	GYa ]bUf	: f]XUm'% h\ Bcj Ya VYf`-" \$"!%" \$
! /g DCJ Ta VTI		: ]bU`GYa ]bUf

## FYgci fWyg

### DfYgWf]VYX F Ygci fWYg

 $7 YU_{<} / K ]gcb'>fk$% £? R\Z_X eYV? `de` W8Z/]U ]RTV^ V_e H\]fX'9X]fJcb"'7Yb[ U[ Y'@YUfb]b[ ž 5i ghfU`]U"$ 

< YU`m? / `A i `\c``UbX`>`f&\$%-Ł'H cZZ\_X \Z]d Wc ` TZR] H`c\Vcdł H\]fX`9X]h]cbž'GU[Y'Di V`]WUh]cbgž'I?"

7 ci fgY'Ci h]bY'GC7K (\$% 'g\ci `X'VY'fYUX']b'Wcb1 Wf]cb'k]h\'7 ci fgY'Ci h]bY'GC7K (\$%+'!'GcW]U''K cf\_ DfUWf|WY'@YjY''('D`UWfa Ybh5

### FYWca a YbXYX FYgci fWYg

5 XX]h]cbU``fYUX]b[g'UfY'Uj U]`UV`Y'cb'h\Y'7 ci fgY'A ccX`Y'G]hY'''

### 7ci fgY 9j U'i Uhjcb UbX 8Yj Y'cda Ybh

Gh XYbhZYYXVUW\_`]g`k Y`Wca Y`h\fci [\ci hh\Y`hYfa "

±0`UXX]h]cbžghi XYbhg`UfY`gi fj YmYX`UVci hh\Y]f`Yl dYf]YbWY`Uhh\Y`YbX`cZh\Y`d`UWYa YbhUVci hh\Y`ei U`]hmcZh\Y]f`Yl dYf]YbWY`cZgi dYfj ]g]cb`UbX``YUfb]b[ "`H\YmUfY`U`gc`YbWci fU[ YX`hc`Wca d`YhY`h\Y`A m9l dYf]YbWY gi fj Ym"

 $DfYj \ ] ci g \ gh \ XYbh \ ZYXVUW \ ``Ug' df ca dh \ X'fY! \ ] a \ U[\ ] b] b[\ 'UbX'fY! XYj \ Y`cda \ Ybh c Zh Y'd`UW a \ Ybh X c W a \ Ybh Ub X'g Ya \ ] b Uf \ a \ Uh \ f] U`g''$ 

## a ]gg]cb cZ5ggYgga YbhHUg\_g

jb Gi Va ]gg]cb

YbWci bhYf`U`dfcV`Ya 'k \Yb`UhhYa dh]b[ 'hc`gi Va ]h`mci f`Ugg][ ba Ybhih\fci [ \`Hi fb]h]bž'd`YUgY cbY`9| hYfbU``Gi ddcfh'cb`-',)'''' %cf`Ya U]``h\Ya 'cb`Yl hYfbU`hY`hgi ddcfh4 i bgk "YXi "Ui

fh\cifg'UfY', .\$\$Ua`—'%\$.\$\$da`cb`k YY\_XUmg'UbX'-.\$\$Ua`—').\$\$da`cb`k YY\_YbXg'fl\*) 'XUmg'U

Zmci 'UfY'i bUV'Y 'rc'gi Va`]hmci f'Ugg][ ba Ybh'Xi Y'rc'U'ZJi `hk ]h\ 'Hi fb]h|bž'mci 'a Um'Udd`m'Zcf'Ub

]cbžVi hmci 'a i ghfYhJ]b'mci f'h|W\_Yhbi a VYf'Zfca '91 hYfbU''Gi ddcfhfU'cb[ 'k ]h\ 'Ubmch\Yf'fY'Yj Ubh

YbhgŁ'hc']bWi XY'Ug'Yj ]XYbWY'rc'gi ddcfhmci f'Yl hYbg]cb'Udd`]WJh]cb"'-Zmci 'Ya U]`'91 hYfbU''Gi ddcfhž

|``'Ui hca Uh]WJ``mfYWY]j Y'U'h|W\_Yhbi a VYfž'Vi h]Zmci 'HY`Yd\cbYž'mci 'k]``'bYYX'hc'gdYWJZJWJ``m'Ug\_'Zcf
i fb]h|b'U'gc'dfcj ]XYg'i dXUhYg'cb'h\Y]f'gmghYa'ghUh g'cb'Hk]hHYf"

U``mžUggYgga YbhtUg\_gʻa i ghVYʻgi Va ]thYX'Y`YWfcb]WU``mj ]U'Y]t\YfʻHi fb]t]bʻcfʻUʻA ccX`Y a Ybh'ʻ±bʻ]bgtUbWYgʻk \YfYʻt\]gʻ]gʻbchdcgg]V`Yž'U`tYfbUt]j Yʻgi Va ]gg]cbʻXYtU]`gʻk ]```VYʻgtUtYX'cbʻmci f ('gʻA ccX`Yʻg]tY"': cfʻ]bZcfa Ut]cbʻcbʻ\ck 'tcʻgi Va ]hʻUgg][ ba Ybtgʻcb`]bYʻj ]UʻA ccX`Y.' #gh XYbh'i bgk "YXi "Ui #Ack!gi Va ]t Ugg][ ba Ybha ccX`Y

i Va ]gg]cb DYbU`m

`\Ug`U`ghUbXUfX``UhY`gi Va ]gg]cb`dYbU`hmcZ

## 5 WUXYa ]W<cbYghmUbX D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[ 'h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b[ 'h\Ya `Ug`mci f`ck b"`±hWJb`hU\_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b[ 'hc`UWW]XYbhJ``mWcdm]b[ 'Zfca `U`gci fWY`k ]h\ci hUW\_bck `YX[ Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga ]bhc'h\Y'Zc``ck]b['WUhY[cf]Yg.

• 7 cdm]b[. I g]b[ 'h\Y'gUa Y'cf'j Yfmg]a ]'Uf'k cfXg'hc'h\Y'cf][]bU''hYl h'cf']XYU'k ]h\ci h'U\V\_bck 'YX[]b[

