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@Uk gcbž7"žGhck Y``žF"`f&\$%&L"`FZW5S_TdVYWZ[efack aX_ge[US^bWdXad_S`UWz7Ua Vf]X[Y.`7Ua Vf]X[Y I b]j Yfg]hmDfYgg"

@Uk gcbž'7 "ž'Ghck Y``ž'F "`f%--- Ł" 'F ZWZ [efad[US^bWd%ad_ S` UWaX_ ge[U, S` [`fdaVgUf[a` ž 7 Ua Vf]X[Y. 7 Ua Vf]X[Y'I b]j Yfg]hmiDfYgg"

$$\label{eq:linear_states} \begin{split} A \ cbgcb\ddot{z} = & [f]X"`f\% - *L"`E \ Sk[`Yea_WfZ[`Y, <SII [_bdah[eSf[a`S`V [`fWdSUf[a`"`7 \]WJ[c.`I b]j \ Yfg]micZ \ 7 \]WJ[c.`DfYgg" \end{split}$$

< ck Uhž F "`f&\$\$- Ł" F ZWSdf a X8dW UZ b[S` a _ ge[Už B Yk `< Uj Yb. `MU`Y`I b]j Yfg]miDfYgg"

BYia Ubbž: fYXYf]W_"'f%--' Ł"BWWAad_S`UWBdSUf[UWe aXfZWEWhW fWW fZS`V 7 [YZfWW fZ 57Wbfgd[Wežf]BGK "@]VfUfmiG"+, %"(' \$-\$' &#%L"BYk "Mcf_.'GW]fa Yf"6cc_g"

DYfYg`8U`7cgHJžBYU`"`f&\$%&L"`AXXfZWdMUadV, bWdXad_ [`YbdSUf[UWe [`da_S`f[Ub[S`ab'Sk[`Y"`BYk`Mcf_. CIZcfX`Ib]jYfg]miDfYgg"`

DcHYfž'>c\b"'f&\$\$\$L"'FZW5S_TdVYWUa_bS` [a` fa e[`Y[[`Yž7Ua Vf]X[Y.'7Ua Vf]X[Y'I b]j Yfg]miDfYgg"

F]b_ ```f&\$%&L`H\Y`>Unn`GHUbXUfXg.`U`[i]XY`hc`H\Y`fYdYfhc]fY"`C|ZcfX.`C|D"

Dfc[fUa 'bchyg'Zfca 'fYWbhWcbWyfng'-GGC ž59'WcbWyfngžF YWhU`g

7 ci fgY'9j U`i Uh]cb'UbX'8Yj Y`cda Ybh

: YYXVUW_Zfca 'gh XYbhg`\Ug'VYb'[Uh\YfYX'h\fci[\`75H9=UbX'h\Y'fYgi`hg'Wcbg]XYfYX'Vmh\Y'7ci fgY 7cbj Ybcf'UbX'ch\Yf'a i g]WghUZZ]b`cfXYf'hc`a U_Y'W\Ub[Yg'hc'Yb\UbW'h\Y'gh XYbh`YUfb]b['YI dYf]YbW"" : cfa U``_ k7j bWd[W UWYj U`i Uh]cbg'k]``VY'i gYX'Uhh\Y'YbX'cZGYa YghYf'Vi h'gh XYbhg'UfY'a cghk Y'Wca Y'hc X]gW gg'Ubma UhhYf'fY`UhYX'hc'h\]g'Wci fgY'k]h\'h\Y'7ci fgY'7cbj Ybcf'VmYa U]``cf`]b`dYfgcb`Uh'Ubmih]a Y Xi f]b['h\Y'gYgg]cb"

⊨a U[Y[·]7fYX]h

6cX]Yg7 + + hYfZJWg & * %*

7F=7CG

7F =7CG Dfcj]XYf 7cXY. \$\$\$-,;