final 64018

LP model

// Objective function
#max: y11p+y12p+y13p+y21p+y22p+y23p+y31p+y32p+y33p+y41p+y42p+y43p; // Constraints
#4x11+4x12+2x13+2x14+1x15+4x16+3x17+1x18+1x19+2x110+4x111+4x112-y11p=5.25; #21x11+25x12+21x13+25x14-
y12p=69; #3.83x11+3.66x12+2.09x13+2.91x14+2.53x15+2.61x16+3.01x17+2.36x18+3.52x19+2.4x110+2.52x111+3.98x112
y13p=7.47; #4x21+4x22+2x23+2x24+1x25+4x26+3x27+1x28+1x29+2x210+4x211+4x212-y21p=5.25;
#21x21+25x22+21x23+25x24+25x25+23x26+25x27+25x28+25x29+23x210+23x211+24x212-y22p=69;
#3.83x21+3.66x22+2.09x23+2.91x24+2.53x25+2.61x26+3.01x27+2.36x28+3.52x29+2.4x210+2.52x211+3.98x212-
y23p=7.47; #4x31+4x32+2x33+2x34+1x35+4x36+3x37+1x38+1x39+2x310+4x311+4x312-y31p=5.25;
#21x31+25x32+21x33+25x34+25x35+23x36+25x37+25x38+25x39+23x310+23x311+24x312-y32p=69;
#3.83x31+3.66x32+2.09x33+2.91x34+2.53x35+2.61x36+3.01x37+2.36x38+3.52x39+2.4x310+2.52x311+3.98x312-
y33p=7.47; #4x41+4x42+2x43+2x44+1x45+4x46+3x47+1x48+1x49+2x410+4x411+4x412-y41p=5.25;
#21x41+25x42+21x43+25x44+25x45+23x46+25x47+25x48+25x49+23x410+23x411+24x412-y42p=69;
#3.83x41+3.66x42+2.09x43+2.91x44+2.53x45+2.61x46+3.01x47+2.36x48+3.52x49+2.4x410+2.52x411+3.98x412-
y43p=7.47; #x11+x12+x13+x14+x15+x16+x17+x18+x19+x110+x111+x112=3; #x21+x22+x23+x24+x25+x26+x27+x2
#x31+x32+x33+x34+x35+x36+x37+x38+x39+x310+x311+x312=3; #x41+x42+x43+x44+x45+x46+x47+x48+x49+x41
#x11+x21+x31+x41=1; #x12+x22+x32+x42=1; #x13+x23+x33+x43=1; #x14+x24+x34+x44=1;
#x15+x25+x35+x45=1; #x16+x26+x36+x46=1; #x17+x27+x37+x47=1; #x18+x28+x38+x48=1;
#x19+x29+x39+x49=1; #x110+x210+x310+x410=1; #x111+x211+x311+x411=1; #x112+x212+x312+x412=1;
#x11>=0; #x12>=0; #x13>=0; #x14>=0; #x15>=0; #x16>=0; #x17>=0; #x18>=0; #x19>=0;
#x110>=0; #x111>=0; #x112>=0; #x21>=0; #x22>=0; #x23>=0; #x24>=0; #x25>=0; #x26>=0;
#x27>=0; #x28>=0; #x29>=0; #x210>=0; #x211>=0; #x212>=0; #x31>=0; #x32>=0; #x33>=0;
#x34>=0; #x35>=0; #x36>=0; #x37>=0; #x38>=0; #x39>=0; #x310>=0; #x311>=0; #x312>=0;
#x41>=0; #x42>=0; #x43>=0; #x44>=0; #x45>=0; #x46>=0; #x47>=0; #x48>=0; #x49>=0;
#x410>=0; #x411>=0; #x412>=0; #-x11>=-1; #-x12>=-1; #-x13>=-1; #-x14>=-1; #-x15>=-1;
#-x16>=-1; #-x17>=-1; #-x18>=-1; #-x19>=-1; #-x110>=-1; #-x111>=-1; #-x112>=-1; #-x21>=-1;
#-x22>=-1; #-x23>=-1; #-x24>=-1; #-x25>=-1; #-x26>=-1; #-x27>=-1; #-x28>=-1; #-x29>=-1;
#-x210>=-1; #-x211>=-1; #-x212>=-1; #-x31>=-1; #-x32>=-1; #-x33>=-1; #-x34>=-1; #-
x35>=-1; #-x36>=-1; #-x37>=-1; #-x38>=-1; #-x39>=-1; #-x310>=-1; #-x311>=-1; #-x312>=-1;
#-x41>=-1; #-x42>=-1; #-x43>=-1; #-x44>=-1; #-x45>=-1; #-x46>=-1; #-x47>=-1; #-x48>=-1;
#-x49>=-1; #-x410>=-1; #-x411>=-1; #-x412>=-1; #y11p>=0; #y12p>=0; #y13p>=0; #y21p>=0;
#y22p>=0; #y23p>=0; #y31p>=0; #y32p>=0; #y33p>=0; #y41p>=0; #y42p>=0; #y43p>=0;
library(lpSolveAPI) dat<-data.frame(GPA=sample(1:4,12,replace=T), Age=sample(20:25,12,replace=T),
LH=round(runif(min=2,max=4,n=12),2)) mylp<-read.lp('LP_HW.lp') set.type(mylp,13:60,'integer')
solve(mylp) get.objective(mylp) get.variables(mylp) group<-get.variables(mylp)[13:60] group<-t(matrix(group,ncol=12,byrow
group