QMM Final Project

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Constraints

The Task is to assign 12 students to 4 groups with not more than 3 students in each group.

Hence we have considered 3 major factors that is very important for best group distribution.

Student's GPA - Considering the example that GPA 3 is a good GPA hence we have taken sum of GPA for each group should be >= 9.0 Student's Attendance - Considering the example that attendance should be atleast 60% hence we have taken sum of attendance for each group should be >= 180.0 Student's grade from Discussion Post - Considering the example that avg grade from discussion post should be atleast 70% hence we have taken sum of grade from discussion post for each group should be >= 210.0

```
library(lpSolveAPI)

## Warning: package 'lpSolveAPI' was built under R version 4.1.3

StuGroup <- read.lp("C:/Users/shari/OneDrive/Desktop/Business
Analytics/QMM/QMM_Project_Group6/Group.lp")
StuGroup

## Model name:
##    a linear program with 48 decision variables and 28 constraints

solve(StuGroup)

## [1] 0

get.objective(StuGroup)

## [1] 259

get.variables(StuGroup)

## [1] 0 0 1 0 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1 0 0 0 0 0 1 1 0 0 0 0 1 0
0 0 0
## [39] 0 1 0 0 1 0 1 0 0 0

get.constraints(StuGroup)

##  [1]   9.1   9.4   9.2   9.6 192.5 238.2 233.7 200.3 246.1 270.6 225.4
253.5
## [13]   3.0   3.0   3.0   3.0   1.0   1.0   1.0   1.0   1.0   1.0   1.0
```

```
1.0
## [25]   1.0   1.0   1.0   1.0
```

Group Allocation

Looking at the output below is the group allocation

Group1 - Student3, Student6, Student9. Group2 - Student5, Student8, Student10. Group3 - Student4, Student7, Student1. Group4 - Student2, Student11, Student12.