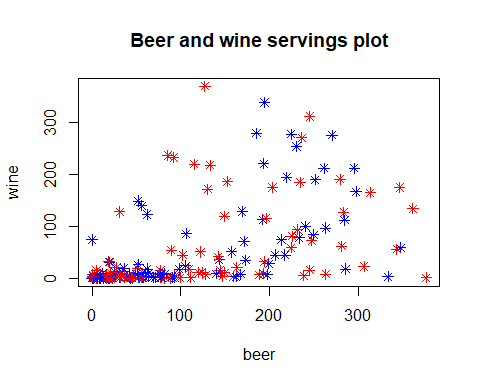
# 1) Please make a scatterplot that compares any of the two variables in the drinks.csv data sets.   
  
#getwd()  
#dir()  
#setwd("C:/Users/mayam/Desktop/MyRscript")  
#dir()  
  
# 1) Please make a scatterplot that compares any of the two variables in the drinks.csv data sets.   
  
data.drinks<-read.csv("datastore/drinks.csv", header=T,sep = ',')  
#View(data.drinks)  
  
plot(x=data.drinks$beer\_servings,y=data.drinks$wine\_servings,xlab = "beer", ylab = "wine",main = "Beer and wine servings plot",  
 pch=8,col=c('blue', 'red'))

  
  
  
# 2) Please open the Novel\_SSRI.xls data set and make a plot where the bars represent the group means and the errorbars are the standard error of the mean of each group.   
library("ggplot2")

library("readxl")  
data.novel<-read\_excel("datastore/Novel\_SSRI.xls")  
df\_novel<-data.frame(data.novel)  
print(df\_novel)

## subjectNumber Placebo Drug  
## 1 1 12 30  
## 2 2 13 29  
## 3 3 15 28  
## 4 4 10 31  
## 5 5 14 32  
## 6 6 11 27  
## 7 7 12 30  
## 8 8 10 31  
## 9 9 20 25  
## 10 10 12 32  
## 11 11 126 30  
## 12 12 10 31  
## 13 13 11 32

# group means calculation  
  
df\_novel\_mean=c(mean((df\_novel$Placebo),mean(df\_novel$Drug)))  
  
df\_novel\_mean

## [1] 12

# Standard deviation calculation  
  
df\_novel\_Stdv=c(sd(df\_novel$Placebo),sd(df\_novel$Drug))  
df\_novel\_Stdv

## [1] 31.596819 2.115268

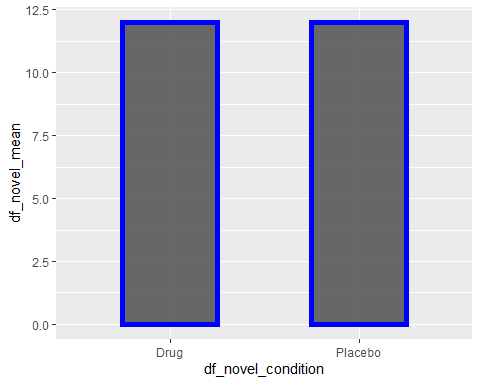
# Standard Error Mean calculation  
  
df\_novel\_StEm=c(sd(df\_novel$Placebo, na.rm=TRUE) /   
 sqrt(length(df\_novel$Placebo[!is.na(df\_novel$Placebo)])),sd(df\_novel$Drug, na.rm=TRUE) /   
 sqrt(length(df\_novel$Drug[!is.na(df\_novel$Drug)])))  
  
df\_novel\_StEm

## [1] 8.7633809 0.5866698

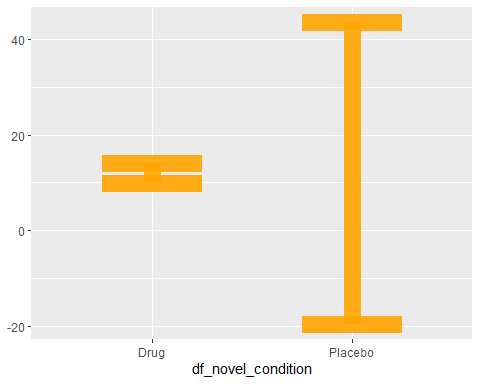
# assigning names to the bar(rows)  
  
df\_novel\_condition=c("Placebo","Drug")  
  
# creating final dataframe  
  
df\_novel\_final=data.frame(df\_novel\_condition,df\_novel\_mean,df\_novel\_Stdv,df\_novel\_StEm)  
  
df\_novel\_final

## df\_novel\_condition df\_novel\_mean df\_novel\_Stdv df\_novel\_StEm  
## 1 Placebo 12 31.596819 8.7633809  
## 2 Drug 12 2.115268 0.5866698

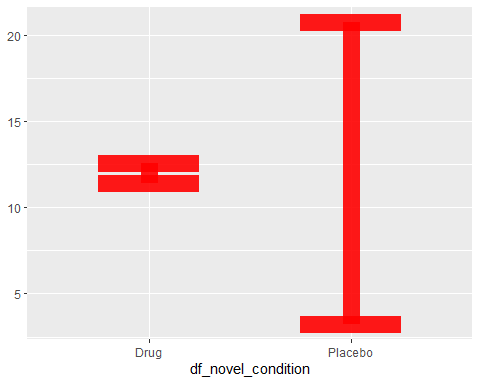
# Plotting bars represent the group means and the errorbars are the standard error of the mean of each group.   
  
# plotting group mean bars  
  
ggplot(df\_novel\_final) +  
 geom\_bar( aes(x=df\_novel\_condition, y=df\_novel\_mean), stat="identity",width=0.5, colour="blue", alpha=0.9, size=2)



# plotting group errorbars with stdv  
  
ggplot(df\_novel\_final) +  
 geom\_errorbar( aes(x=df\_novel\_condition, ymin=df\_novel\_mean-df\_novel\_Stdv, ymax=df\_novel\_mean+df\_novel\_Stdv),stat="identity", width=0.5, colour="orange", alpha=0.9, size=6)



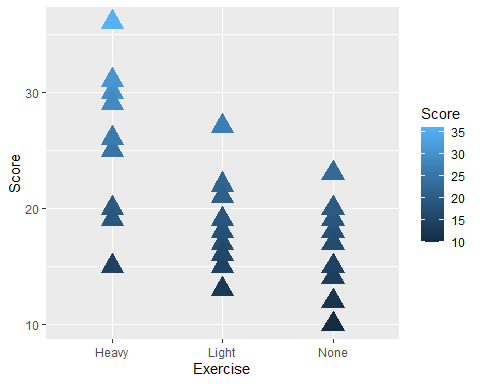
# plotting group errorbars with standard mean error  
  
ggplot(df\_novel\_final) +  
 geom\_errorbar( aes(x=df\_novel\_condition,ymin = df\_novel\_mean-df\_novel\_StEm, ymax = df\_novel\_mean+df\_novel\_StEm),stat="identity", width=0.5, colour="red", alpha=0.9, size=6)



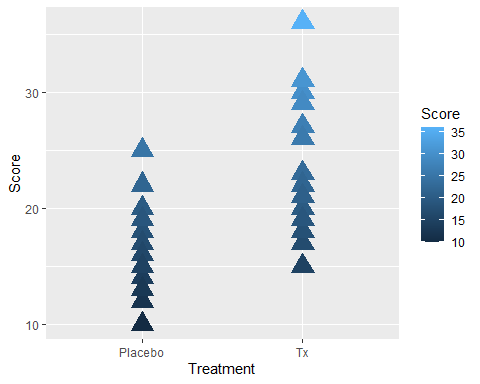
# 3) Please open the DeprScore.csv data set and make a plot where the bars represent the group means and the errorbars are the standard error of the mean of each group.  
#Please plot plot the bars that refer to treatment in different colors.   
  
library("ggplot2")  
data.DeprScore<-read.csv("datastore/DeprScore.csv", header=T,sep = ',')  
df\_DeprScore<-data.frame(data.DeprScore)  
print(df\_DeprScore)

## Exercise Treatment Score  
## 1 None Placebo 10  
## 2 None Placebo 12  
## 3 None Placebo 14  
## 4 None Placebo 18  
## 5 None Placebo 17  
## 6 None Tx 15  
## 7 None Tx 17  
## 8 None Tx 19  
## 9 None Tx 23  
## 10 None Tx 20  
## 11 Light Placebo 13  
## 12 Light Placebo 15  
## 13 Light Placebo 17  
## 14 Light Placebo 22  
## 15 Light Placebo 16  
## 16 Light Tx 18  
## 17 Light Tx 19  
## 18 Light Tx 22  
## 19 Light Tx 27  
## 20 Light Tx 21  
## 21 Heavy Placebo 15  
## 22 Heavy Placebo 19  
## 23 Heavy Placebo 20  
## 24 Heavy Placebo 25  
## 25 Heavy Placebo 19  
## 26 Heavy Tx 26  
## 27 Heavy Tx 30  
## 28 Heavy Tx 31  
## 29 Heavy Tx 36  
## 30 Heavy Tx 29

Exer\_bar <- ggplot(df\_DeprScore,aes(Exercise,Score)) +  
 geom\_point(shape=17,size=6,aes(color=Score))  
   
Exer\_bar



Treatment\_bar <- ggplot(df\_DeprScore,aes(Treatment,Score)) +  
 geom\_point(shape=17,size=6,aes(color=Score))  
  
Treatment\_bar



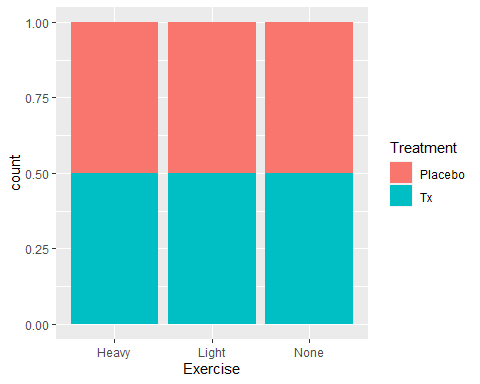
library("dplyr")

##   
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':  
##   
## filter, lag

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

ggplot(data.DeprScore, aes(Exercise)) +   
 geom\_bar(aes(fill = Treatment), position = "fill")



mean\_ex <- tapply(data.DeprScore$Score, data.DeprScore$Exercise, mean)  
mean\_ex

## Heavy Light None   
## 25.0 19.0 16.5

sd\_ex <- tapply(data.DeprScore$Score, data.DeprScore$Exercise, sd, na.rm=TRUE)  
sd\_ex

## Heavy Light None   
## 6.633250 4.109609 3.865805

mean\_tr <- tapply(data.DeprScore$Score, data.DeprScore$Treatment, mean)  
mean\_tr

## Placebo Tx   
## 16.80000 23.53333

sd\_tr <- tapply(data.DeprScore$Score, data.DeprScore$Treatment, sd, na.rm=TRUE)  
sd\_tr

## Placebo Tx   
## 3.913347 6.034030

mean\_group<-c(mean\_ex,mean\_tr)  
mean\_group

## Heavy Light None Placebo Tx   
## 25.00000 19.00000 16.50000 16.80000 23.53333

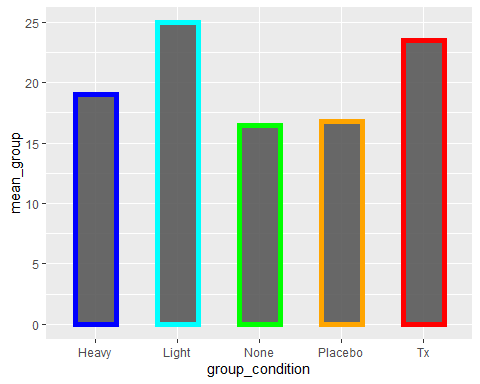
sd\_group<-c(sd\_ex,sd\_tr)  
sd\_group

## Heavy Light None Placebo Tx   
## 6.633250 4.109609 3.865805 3.913347 6.034030

# assigning names to the bar(rows)  
  
group\_condition=c("Light","Heavy","None","Placebo","Tx")  
  
# creating final dataframe  
  
df\_final=data.frame(group\_condition,mean\_group ,sd\_group)  
  
df\_final

## group\_condition mean\_group sd\_group  
## Heavy Light 25.00000 6.633250  
## Light Heavy 19.00000 4.109609  
## None None 16.50000 3.865805  
## Placebo Placebo 16.80000 3.913347  
## Tx Tx 23.53333 6.034030

ggplot(df\_final) +  
 geom\_bar( aes(x=group\_condition, y=mean\_group), stat="identity",width=0.5, col=c('cyan','blue','green','orange','red'), alpha=0.9, size=2)



# plotting group errorbars with stdv  
  
ggplot(df\_final) +  
 geom\_errorbar( aes(x=group\_condition, ymin=mean\_group-sd\_group, ymax=mean\_group+sd\_group),stat="identity", width=0.5, col=c('cyan','blue','green','orange','red'), alpha=0.9, size=6)

