

Homework 1

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1. a)

```
> DPM <- gun_deaths["month"]
> DPMtable <- table(DPM)
> kable(DPMtable, col.names = c("Month", "Deaths"))
```

Month	Deaths
1	8273
2	7093
3	8289
4	8455
5	8669
6	8677
7	8989
8	8783
9	8508
10	8406
11	8243
12	8413

b)

```
DPM2 <- DPM
```

```
DPM2$month <-
```

```
factor(ifelse(DPM$month=="1", "Jan", ifelse(DPM$month=="2", "Feb", ifelse(DPM$month=="3", "March", if
else(DPM$month=="4", "April", ifelse(DPM$month=="5", "May", ifelse(DPM$month=="6", "June", ifelse(DP
M$month=="7", "July", ifelse(DPM$month=="8", "Aug", ifelse(DPM$month=="9", "Sept", ifelse(DPM$mont
h=="10", "Oct", ifelse(DPM$month=="11", "Nov", "Dec"))))))))))))
```

```
DPMtable2 <- table(DPM2)
```

```
barplot(DPMtable2, main = "Gun Deaths per Month in America 2012-2014",
```

```
       xlab = "Month", ylab = "Deaths", ylim = c(0,10000), col = "red")
```

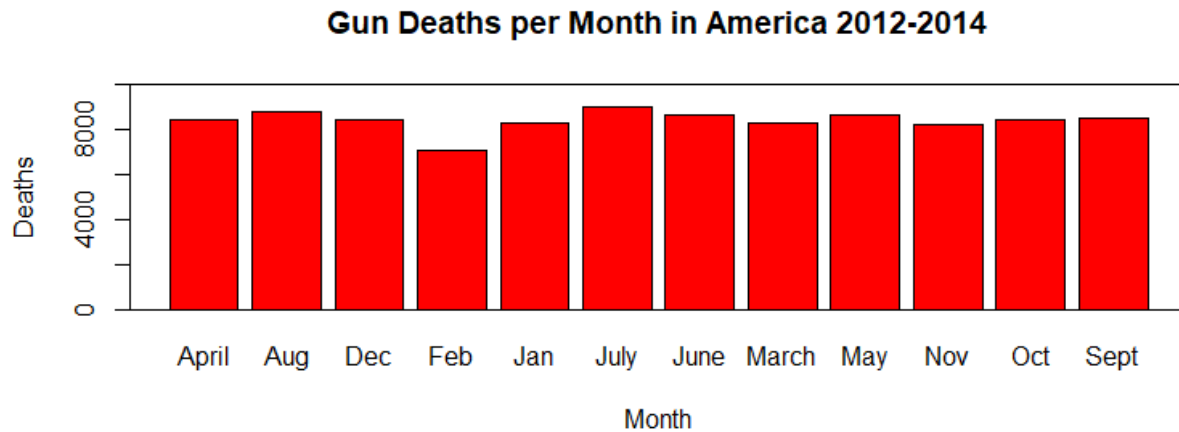
```
box()
```

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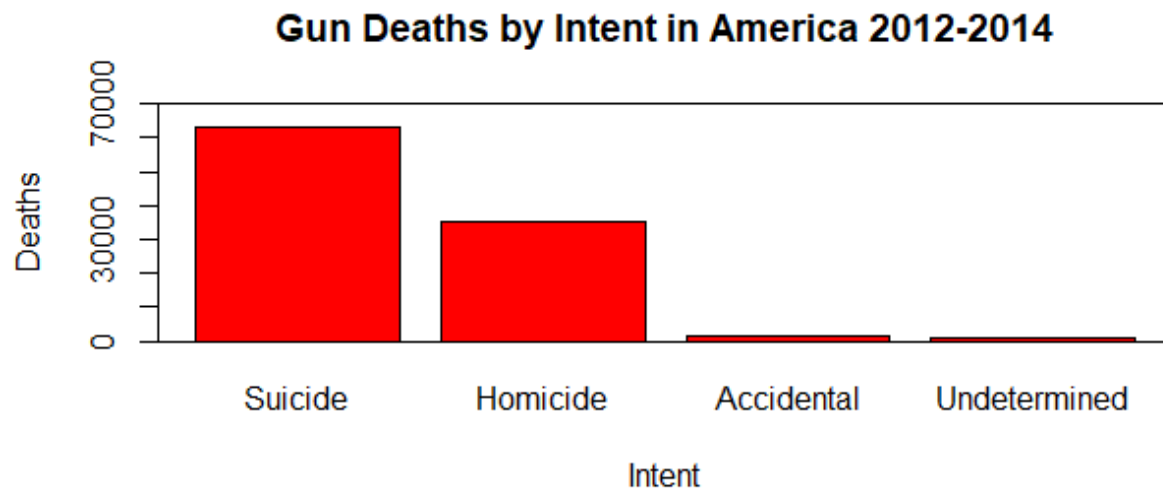
c)

```
IntentTab <- table(gun_deaths$intent)
```

```
barplot(IntentTab[order(IntentTab, decreasing = T)], main = "Gun Deaths by Intent in America 2012-2014",
```

```
       xlab = "Intent", ylab = "Deaths", col = "red", ylim = c(0,70000))
```

```
box())
```



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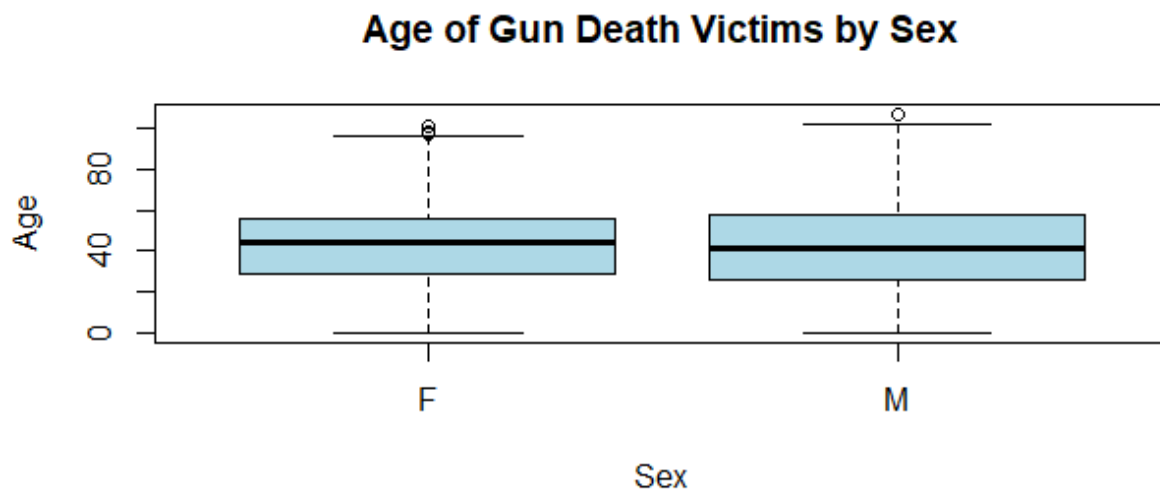
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d)

```
boxplot(gun_deaths$age~gun_deaths$sex, col = "lightblue", ylab= "Age", xlab="Sex",
        main= "Age of Gun Death Victims by Sex")
FemaleVictims <- gun_deaths[gun_deaths$sex == "F",]
FemaleVictims2 <- na.omit(FemaleVictims$age)
mean(FemaleVictims2)
# Average age of female gun death victims is 43.7.
```



e)

```
levels(gun_deaths$education)
WhiteMale2012 <- gun_deaths[gun_deaths$year == "2012" & gun_deaths$sex == "M",]
WhiteMale2012AtLeastHS <- WhiteMale2012[WhiteMale2012$education == "BA+" |
WhiteMale2012$education == "HS/GED" |
        WhiteMale2012$education == "Some college",]
nrow(WhiteMale2012AtLeastHS)
# 22153 white males with at least a high school education were killed by guns in 2012.
```

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f)

```
str(gun_deaths)
```

```
gun_deaths$DeathsbySeason <- factor(ifelse(gun_deaths$month == "1" | gun_deaths$month == "2" |  
gun_deaths$month == "3", "Winter",
```

```
      ifelse(gun_deaths$month == "4" | gun_deaths$month == "5" | gun_deaths$month ==  
"6", "Spring",
```

```
      ifelse(gun_deaths$month == "7" | gun_deaths$month == "8" |  
gun_deaths$month == "9", "Summer", "Fall"))))
```

```
table(gun_deaths$DeathsbySeason)
```

```
Fall Spring Summer winter  
25062  25801  26280  23655
```

Summer had the most gun deaths.

g)

```
table(gun_deaths$intent[gun_deaths$race=="White"])
```

```
table(gun_deaths$intent[gun_deaths$race=="Black"])
```

```
table(gun_deaths$intent[gun_deaths$race=="Hispanic"])
```

Accidental	Homicide	Suicide	Undetermined
1132	9147	55372	585
Accidental	Homicide	Suicide	Undetermined
328	19510	3332	126
Accidental	Homicide	Suicide	Undetermined
145	5634	3171	72

Whites are more likely to die by suicide. Blacks are more likely to die

by homicide. Hispanics are more likely to die by homicide.

h)

```
NoPolice <- gun_deaths[gun_deaths$police == "0",]
```

```
YesPolice <- gun_deaths[gun_deaths$police == "1",]
```

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```
prop.table(table(YesPolice$race))
```

```
prop.table(table(NoPolice$race))
```

Asian/Pacific Islander	Black
0.02139800	0.25392297
Hispanic	Native American/Native Alaskan
0.20114123	0.01783167
white	
0.50570613	

Asian/Pacific Islander	Black
0.013038754	0.230793996
Hispanic	Native American/Native Alaskan
0.087931104	0.008974204
white	
0.659261942	

Whites have the highest percentage of gun deaths whether or not the police were involved.

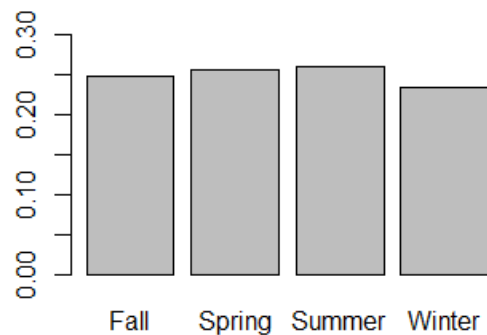
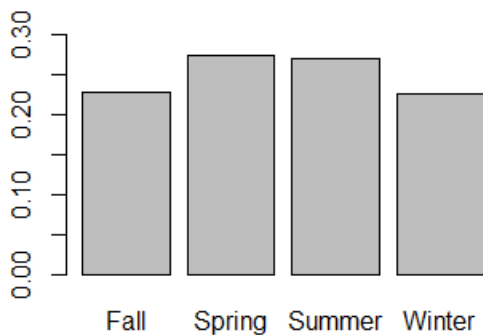
```
par(mfrow=c(1,2))
```

```
YesPoliceSeasonTab <- prop.table(table(YesPolice$DeathsbySeason))
```

```
barplot(YesPoliceSeasonTab, ylim = c(0,.3))
```

```
NoPoliceSeasonTab <- prop.table(table(NoPolice$DeathsbySeason))
```

```
barplot(NoPoliceSeasonTab, ylim = c(0,.3))
```



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When police are involved, spring and summer have proportionally more deaths than
fall and winter relative to when they are not involved.

```
boxplot(YesPolice$age~YesPolice$sex)
```

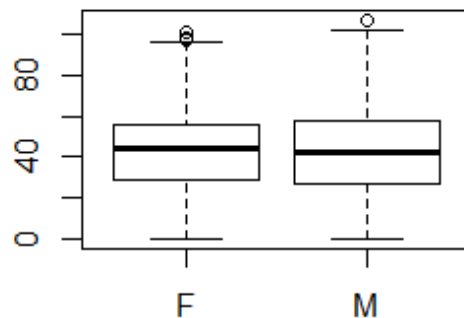
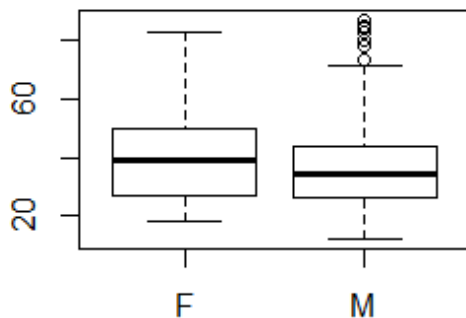
```
boxplot(NoPolice$age~NoPolice$sex)
```

```
YesPoliceMale <- YesPolice[YesPolice$sex == "M",]
```

```
NoPoliceMale <- NoPolice[NoPolice$sex == "F",]
```

```
YesPoliceMale2 <- na.omit(YesPoliceMale$age)
```

```
NoPoliceMale2 <- na.omit(NoPoliceMale$age)
```



```
> mean(YesPoliceMale2)
```

```
[1] 35.87379
```

```
> mean(NoPoliceMale2)
```

```
[1] 43.71202
```

When police are involved in gun deaths, the average age of males is about

seven years younger than when they are not involved. Females are much

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closer in age when comparing the two.

Overall, police involved gun deaths are not significantly different than

other gun deaths.