Tobias Kloht, ID: 4596192

Computational Network Analysis
Exercise 1

What is the average age of gamers?

Calculating the average age:
```
mean(data$Age, na.rm=TRUE)
```

Result:
```
[1] 27.70772
```

What proportion of gamers are females?

Calculating the proportion of female gamers:
```
femaleGamers = table(data$Gender)[2] / nrow(data)
```

formatting as percentage:
```
sprintf("%1.2f%%", 100*unname(femaleGamers))
```

Result:
```
[1] "13.25%"
```

Is the distribution of the age of female gamers any different from the distribution of male gamers?

Calculating the mean age of gamers by gender:
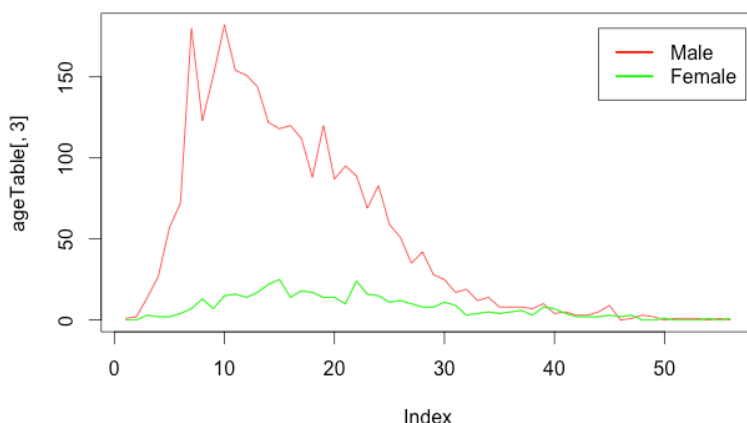```
tapply(data$Age, data$Gender, mean, na.rm=TRUE)
```

Result:
```
            female   male
26.00000 32.34198 26.99635
```
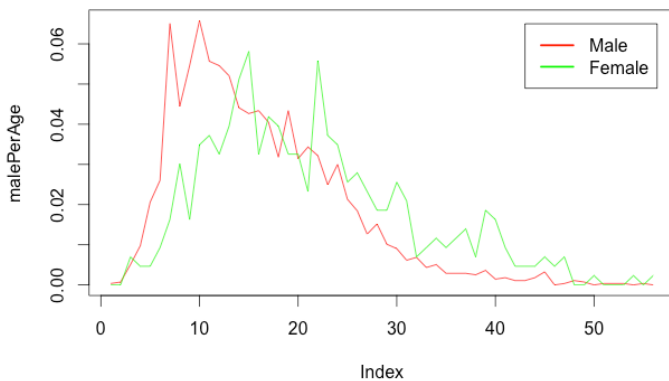
### Further analysis

Plot of male vs female gamers per age:



```
ageTable = table(data$Age,
data$Gender)
plot(ageTable[,3], type="l",
col="red")
lines(ageTable[,2],
col="green")
```

Plot of the proportion of gamers per age, male vs female:


```
femalePerAge = ageTable[,2] /
unname(table(data$Gender)[2])
malePerAge = ageTable[,3] /
unname(table(data$Gender)[3])
plot(malePerAge, type="l",
col="red")
lines(femalePerAge, col="green")
```

Write a brief paragraph based on your answers defining who the players of MMOPRG are.

Participation in MMORPGs reaches its peak very early at 18 to 21 years with about 190 gamers. Participation then decreases relatively steadily until 40 to 45 years are reached. At that point participation decreases slower than before.
The vast majority of players are males between 18 and 40. Players older than 50 years remain a rare occasion with less than ten players in this dataset. However it is noticeable that they do exist, if at a very low rate.

When comparing male and female gamers the expectation that male players are the majority can be confirmed. At around 13 percent of all players the proportion of females is not as low as one might have thought though.
Apart from that it is noticeable that many female gamers start later in comparison to males. Participation has two noticeable peaks at 26 and 33 years, which is 5 to 15 years later than males. At higher ages the difference between male and female gamers decreases, starting at around 46 years the absolute numbers are almost identical.
Overall the the age of female players is much more evenly distributed than that of male players.