# Yoshita Aligina - Regression Homework One

Code

Here I am loading and observing my data, just in case there could be any potential errors that come out.

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```
setwd("C:/Users/yoshi/OneDrive/Documents/RegressionHW")
hw1 <- read.table("hw1.txt", header = TRUE)
hw1
```

| | Country <chr> | GDP <dbl> | Satisfaction <dbl> |
|---|---|---|---|
| 1 | Australia | 27.055725 | 7.894780 |
| 2 | Finland | 25.860430 | 7.905812 |
| 3 | Japan | 25.592535 | 6.579316 |
| 4 | Korea | 7.351448 | 5.334750 |
| 5 | Mexico | 13.613936 | 7.964578 |
| 6 | Sweden | 29.394784 | 8.010560 |
| 7 | United States | 33.824743 | 7.658895 |

7 rows

Show

This is both part a and part b. Setting up a scatterplot of “Satisfaction v.s. GDP” as well as creating a line with the mentioned specifications.

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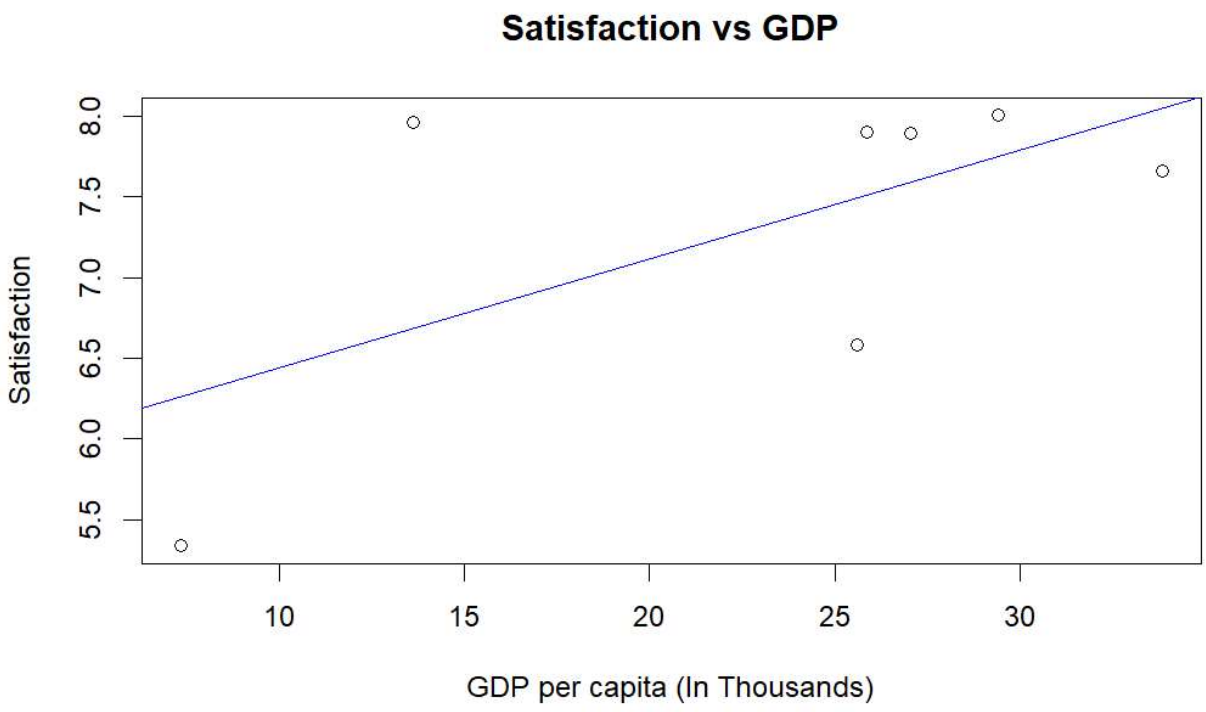
```
plot(hw1$GDP, hw1$Satisfaction,
     xlab = "GDP per capita (In Thousands)",
     ylab = "Satisfaction",
     main = "Satisfaction vs GDP")

abline(5.77, 0.0674, col = "blue")
```

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This is part C, calculating the satisfaction score of France, 7.617. The level is given to us by the blue line we used in the question prior.

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```
france_gdp <- 27.4
france_satisfaction <- 5.77 + 0.0674 * france_gdp
cat("Expected satisfaction for France:", france_satisfaction)
```

```
Expected satisfaction for France: 7.61676
```

This is me repeating the graph for d, but with a red dot added on to represent the score of France.

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```
plot(hw1$GDP, hw1$Satisfaction,
     xlab = "GDP per capita (In Thousands)",
     ylab = "Satisfaction",
     main = "Satisfaction vs GDP")

abline(5.77, 0.0674, col = "blue")
```

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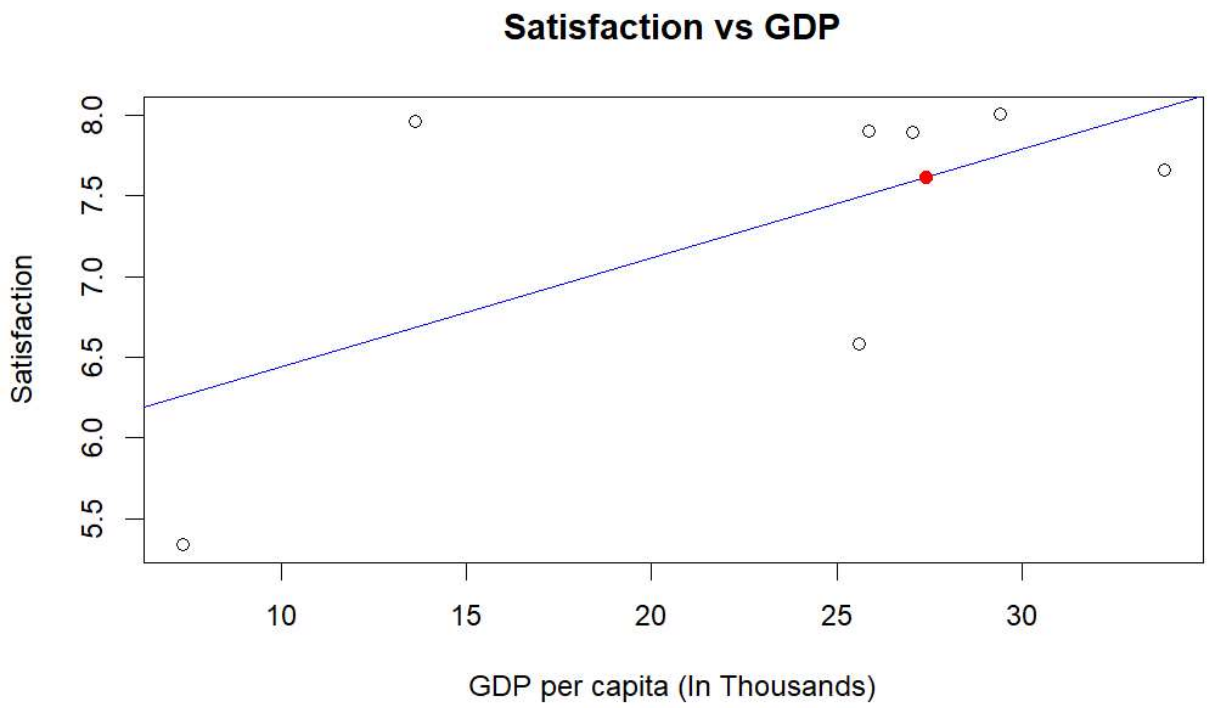
```
points(france_gdp, france_satisfaction, col = "red", pch = 19)
```




Here I am calculating the satisfaction of Greece and Turkey as I did in part C. I then added those to the prior plot once more for part E. The points for France, Greece, and Turkey are added to the plot as red, grey, and pink respectively.

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```
greece_gdp <- 21.5
turkey_gdp <- 10.1

greece_satisfaction <- 5.77 + 0.0674 * greece_gdp
turkey_satisfaction <- 5.77 + 0.0674 * turkey_gdp

plot(hw1$GDP, hw1$Satisfaction,
     xlab = "GDP per capita (In Thousands)",
     ylab = "Satisfaction",
     main = "Satisfaction vs GDP")

abline(5.77, 0.0674, col = "blue")
```

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```
points(france_gdp, france_satisfaction, col = "red", pch = 19)
points(greece_gdp, greece_satisfaction, col = "gray", pch = 19)
```

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```
points(turkey_gdp, turkey_satisfaction, col = "pink", pch = 19)

legend("bottomright",
       legend = c( "France", "Greece", "Turkey"),
       col = c("red", "gray", "pink"),
       pch = c(19, 19, 19))
```