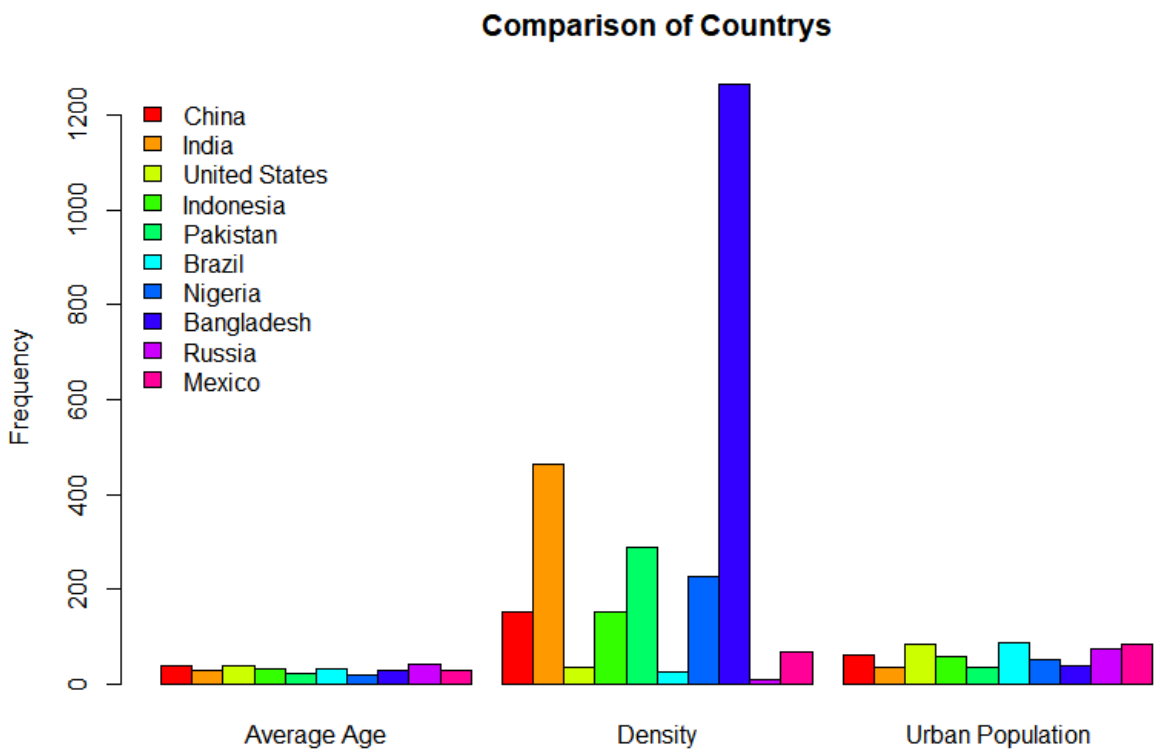
Question 5:

Link: https://www.kaggle.com/tanuprabhu/population-by-country-2020

In the part a, we use three columns from the dataset which is Average Age, Density and Urban Population to draw the multiple bar plot for the comparison between countries. For the other parts, we will only one column from the dataset which is Average Age to draw the other charts because we haven't ask for the multiple sets of chart.

a)

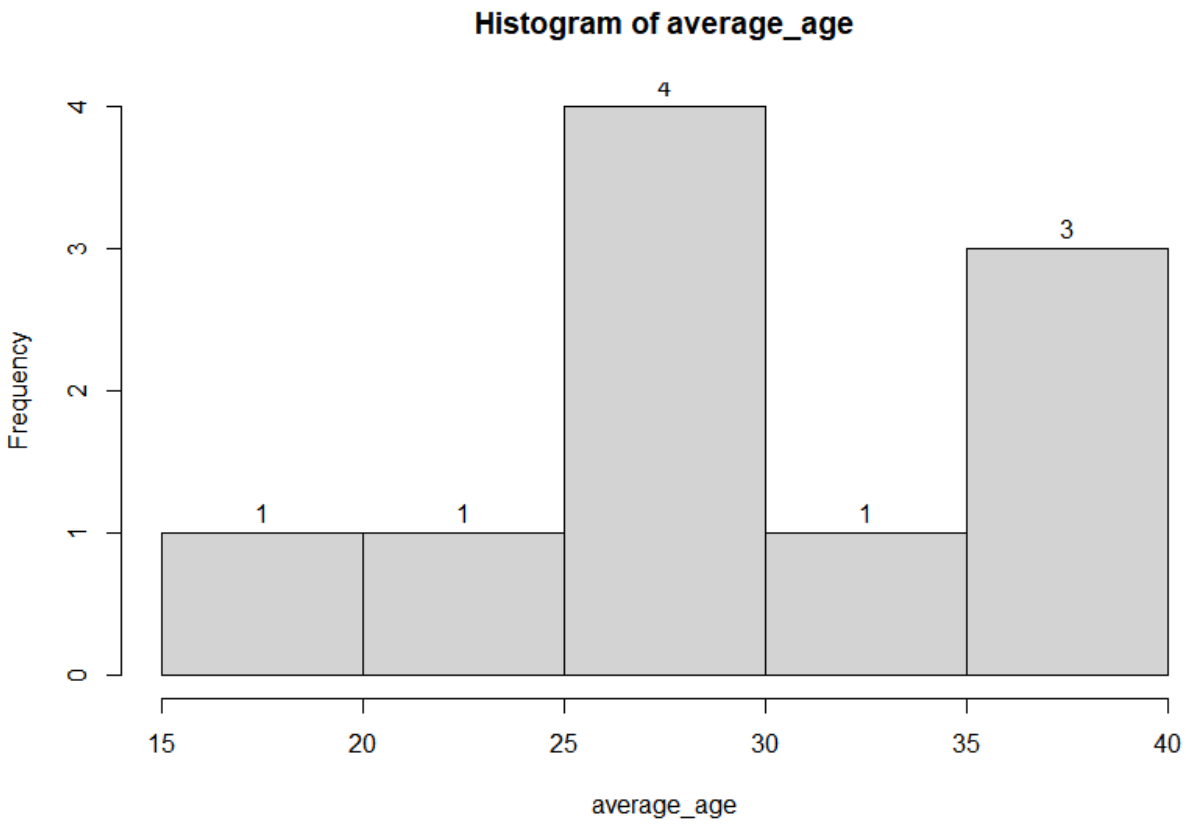
```
> average_age <- c(38, 28, 38, 30, 23, 33, 18, 28, 40, 29)

> density <- c(153, 464, 36, 151, 287, 25, 226, 1265, 9, 66)

> urban_population <- c(61, 35, 83, 56, 35, 88, 52, 39, 74, 84)

> data <- data.frame(average_age, density, urban_population)

> names(data) <- c("Average Age", "Density", "Urban Population")

> barplot(height = as.matrix(data), main = "Comparison of Countrys", ylab="Frequency", beside = TRUE, col=rainbow(10))

> legend("topleft", c("China", "India", "United States", "Indonesia", "Pakistan", "Brazil", "Nigeria", "Bangladesh", "Russia", "Mexico"), cex=1.0, bty="n", fill=rainbow(10))
```



b)

Histogram of Average Age of the Countries:

```
> average_age <- c(38, 28, 38, 30, 23, 33, 18, 28, 40, 29)
> h <-hist(average_age)
> text(h$mids,h$counts,labels=h$counts, adj=c(0.5, -0.5))
```

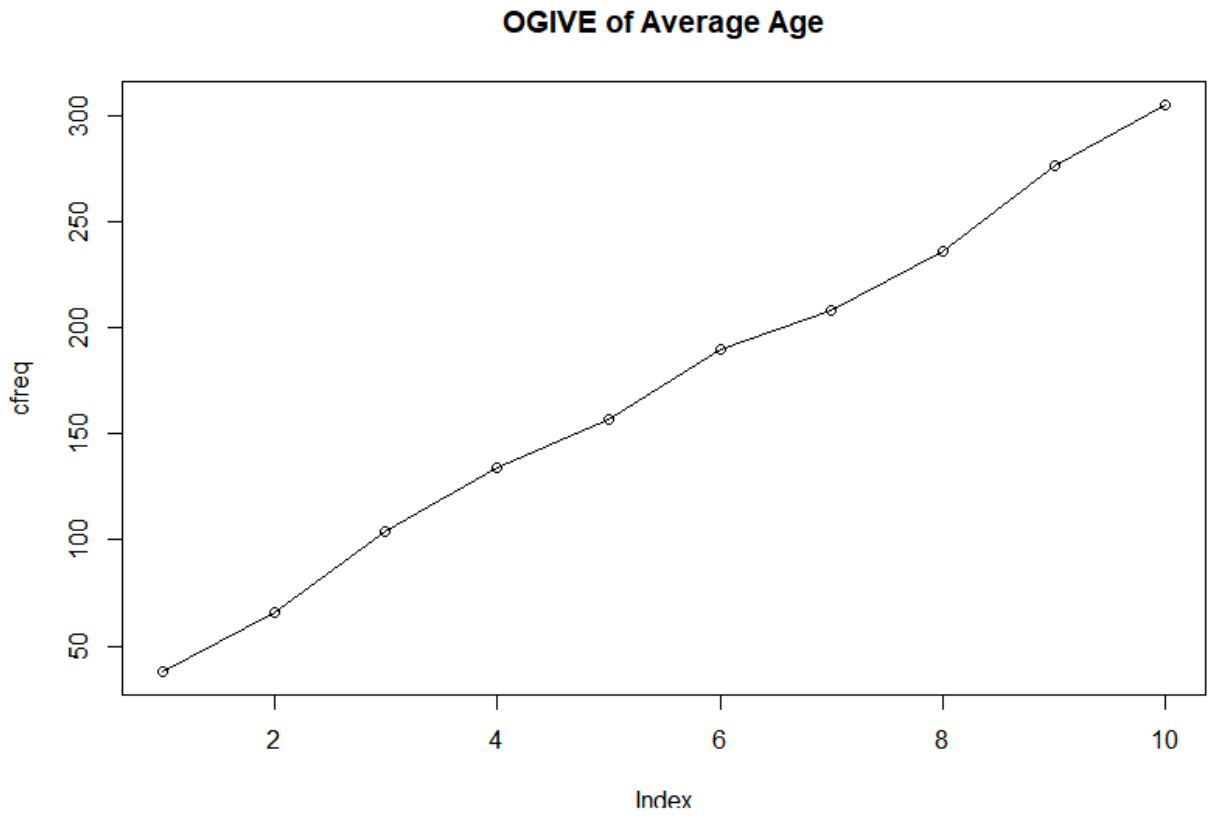


c)

OGIVE of Average Age of the Countries:

```
> average_age <- c(38, 28, 38, 30, 23, 33, 18, 28, 40, 29)
> cfreq = cumsum(average_age)
> plot(cfreq, main = "OGIVE of Average Age")
```

> lines(cfreq)

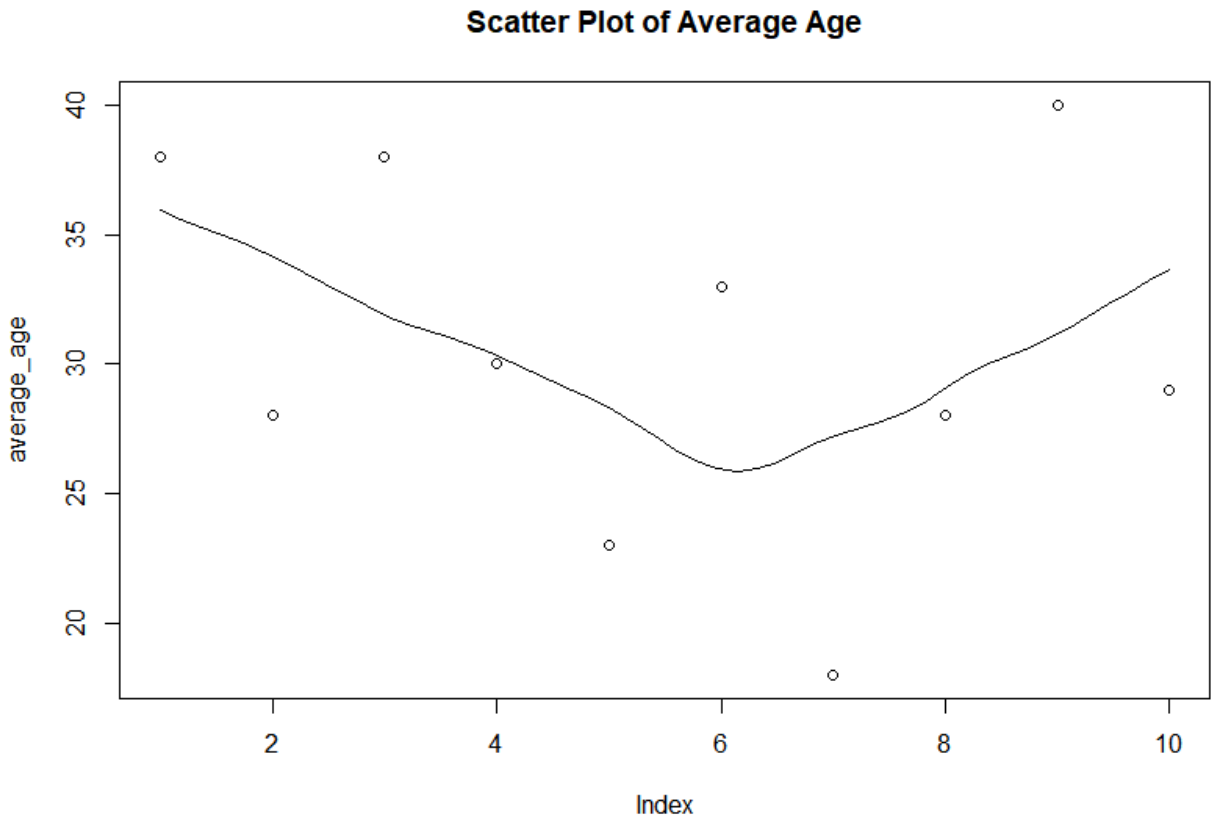


d)

Scatter Plot of Average Age of the Countries:

> average_age <- c(38, 28, 38, 30, 23, 33, 18, 28, 40, 29)

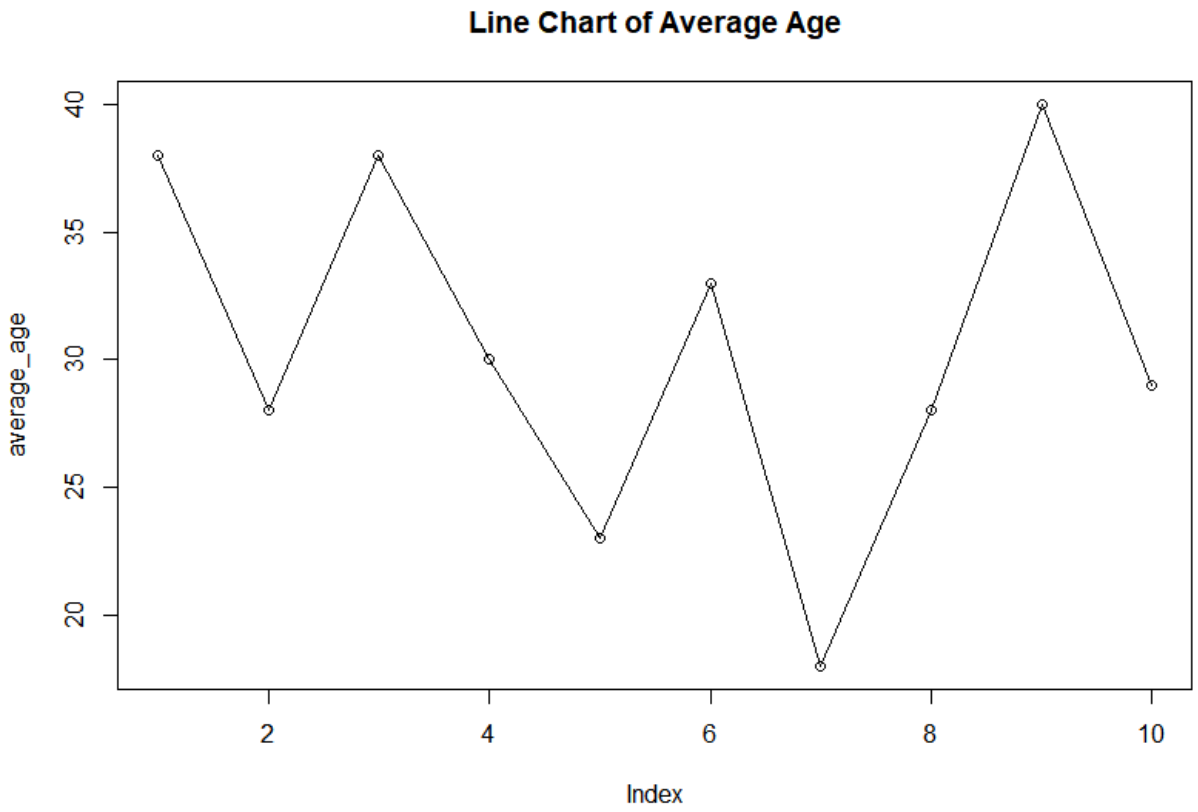
> scatter.smooth(average_age, main = "Scatter Plot of Average Age")



e)

Line Chart of Average Age of the Countries:

```
> average_age <- c(38, 28, 38, 30, 23, 33, 18, 28, 40, 29)
> plot(average_age, main = "Line Chart of Average Age")
> lines(average_age)
```


Line Chart of Average Age
average_age
20
25
30
35
40
2
4
6
8
10
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