

## Section 5 Practice Assignment

**Question 1:** In R there is an in built data frame **Nile**. This has the annual flow in river Nile for year 1871 to 1971.

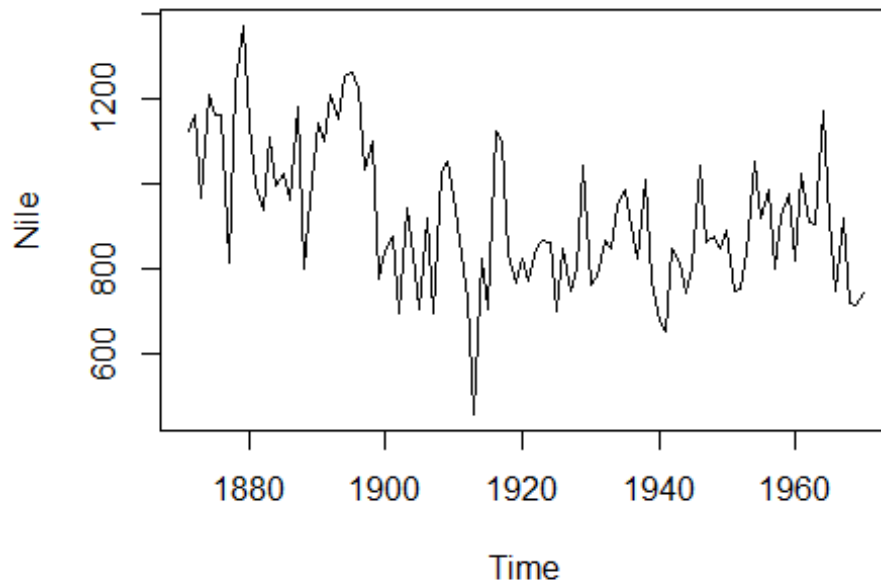
See the data frame Nile below.

```
Nile

## Time Series:
## Start = 1871
## End = 1970
## Frequency = 1
## [1] 1120 1160 963 1210 1160 1160 813 1230 1370 1140 995 935 1110
994
.....
```

**You are required to produce the following plot using R.** See the code below:

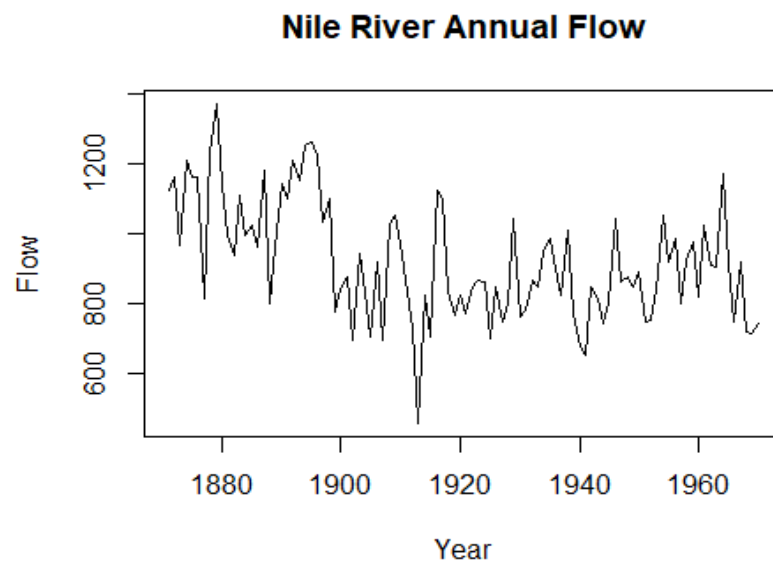
```
plot(Nile)
```



**Question 2:** In the above Plot, your next assignment is to add the title as "Nile River Annual Flow", x axis label as "Year" and y axis label as "Flow".

See the code below:

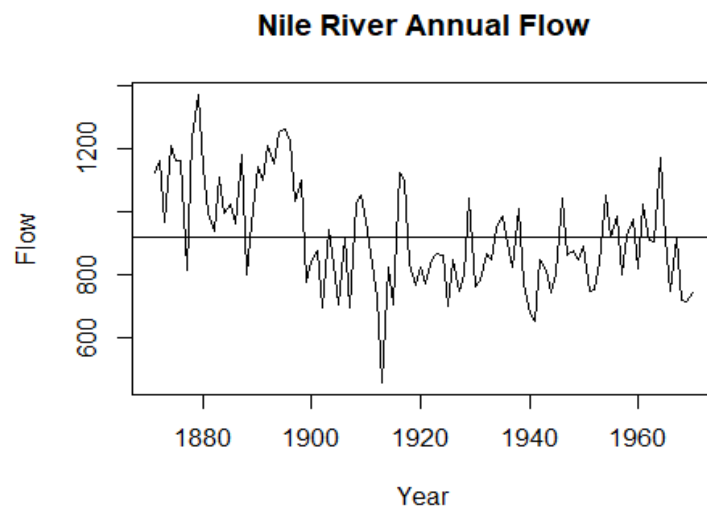
```
plot(Nile,  
     main = "Nile River Annual Flow",  
     xlab = "Year",  
     ylab = "Flow")
```



**Question 3:** Add a horizontal line showing the average flow over these years.

See the code below:

```
plot(Nile,  
     main = "Nile River Annual Flow",  
     xlab = "Year",  
     ylab = "Flow")  
abline(h=mean(Nile))
```



**Question 4:** Add text as: "Average Flow:" with the calculated average flow on the chart. See the code.

**Hint:** To add number of items to a string, there is a function called `paste()`. This is not very intuitive and was not covered in lectures. `paste("Average Flow: ", mean(Nile))` will produce the required text.

```
plot(Nile,  
     main = "Nile River Annual Flow",  
     xlab = "Year",  
     ylab = "Flow")  
abline(h=mean(Nile))  
text(x = 1940, y=1200, paste("Average Flow: ", mean(Nile)) )
```

