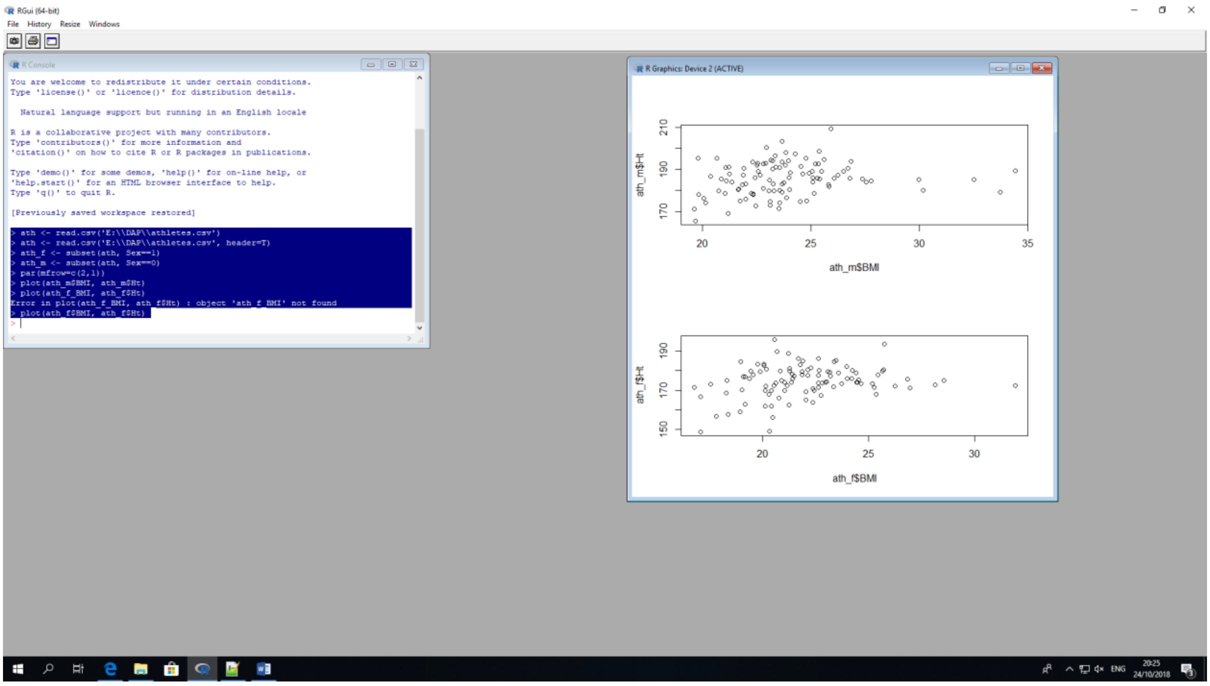
Exercise 2 Correlation:

```
> ath <- read.csv('E:\\DAP\\athletes.csv')

> ath <- read.csv('E:\\DAP\\athletes.csv', header=T)

> ath_f <- subset(ath, Sex==1)

> ath_m <- subset(ath, Sex==0)

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

> plot(ath_m$BMI, ath_m$Ht)

> plot(ath_f$BMI, ath_f$Ht)
```




R test shows little correlation between both variable for male and female as the values are not close to the value 1.

```
> cor(ath_m$BMI, ath_m$Ht)

[1] 0.1516806

> cor(ath_f$BMI, ath_f$Ht)

[1] 0.2316648
```

Cor.test

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```
> cor.test(ath_m$BMI, ath_m$Ht)

        Pearson's product-moment correlation

data:  ath_m$BMI and ath_m$Ht
t = 1.5346, df = 100, p-value = 0.128
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.04409497  0.33623719
sample estimates:
      cor
0.1516806
```

As the p-value is 0.128, there is a high probably indicates no correlation between the values.

The results of this correlation test indicates a weak relationship between the variables for male

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```
> cor.test(ath_f$BMI, ath_f$Ht)

        Pearson's product-moment correlation

data:  ath_f$BMI and ath_f$Ht
t = 2.3575, df = 98, p-value = 0.02039
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.03692703 0.40945162
sample estimates:
      cor
0.2316648
```

There is a 2% chance of finding this in a random sample in the real world. The results of this correlation test indicates a weak relationship between the variables for female