R exercise – Recreating tables and figures from the text   **ECON 3040**

To load the California test score data into R, enter:

```
load(url("http://home.cc.umanitoba.ca/~godwinrt/3040/data.Rdata"))
attach(data)
```

Take a look at the data, and try to get familiar with it. Now, let's recreate Table 4.1, on slide 2-4. To get the relevant numbers, enter:

```
mean(str)
sd(str)
quantile(str, probs = c(0.1,0.25,0.4,0.5,0.6,0.75,0.9))

mean(score)
sd(score)
quantile(score, probs = c(0.1,0.25,0.4,0.5,0.6,0.75,0.9))
```

Remember that you can get help with a command by typing `?quantile`, for example.

Next, reproduce the scatterplot on slide 2-5. Type `plot(str,score)`

Test Scores vs. Student Teacher Ratio
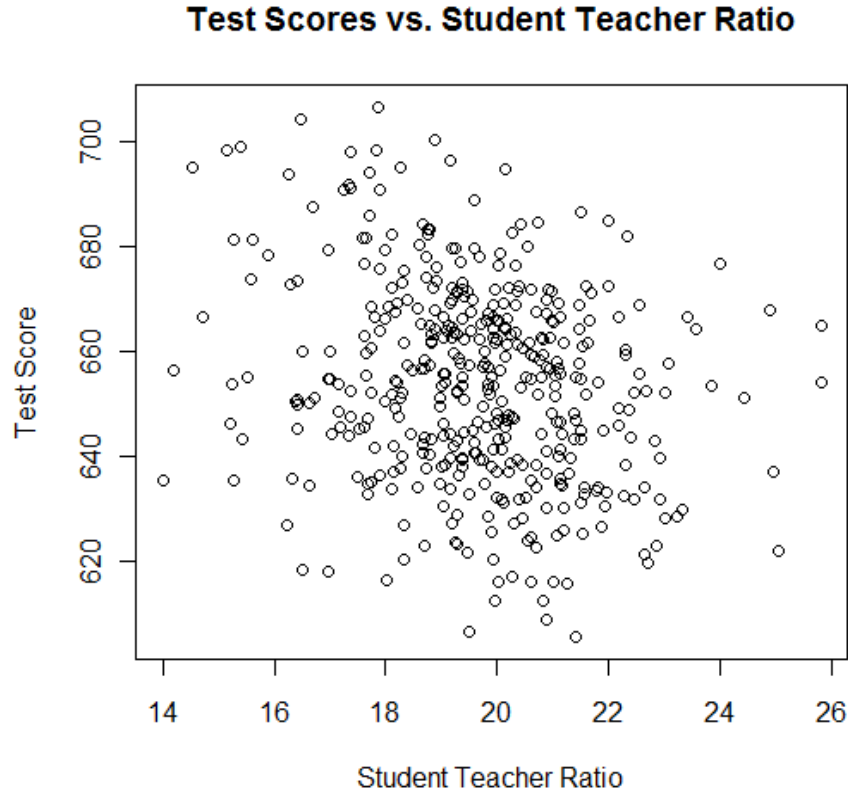
Check the help file to see how to add titles and re-label the axis.

Next, we will reproduce the table on slide 2-7. We need to enter the following:

```
mean(score[str<20])
sd(score[str<20])
sum(str<20)

mean(score[str>=20])
sd(score[str>=20])
sum(str>=20)
```

Try entering `str<20` by itself.

Now, to get the difference in means on slide 2-8. We could enter:

```
mean(score[str<20]) - mean(score[str>=20])
```

However, if we think we will be using these two means frequently, it may be convenient to define two new variables:

```
small = mean(score[str<20])
large = mean(score[str>=20])
```

and then take the difference between the two:

```
small - large
```

To reproduce the hypothesis test on slides 2-9 to 2-11, we only need the command:

```
t.test(score[str<20],score[str>=20])
```

To save your work, click *File → Save*.