STAT201 Assignment 1

Introduction to R

Due by 3pm on Friday 11 March 2022

Your assignment is the answers to the questions below. You will need to copy the relevant output and graphs from R and put them into a Word document (or another editor). You can copy your graphs in R using export, and copy to clipboard.

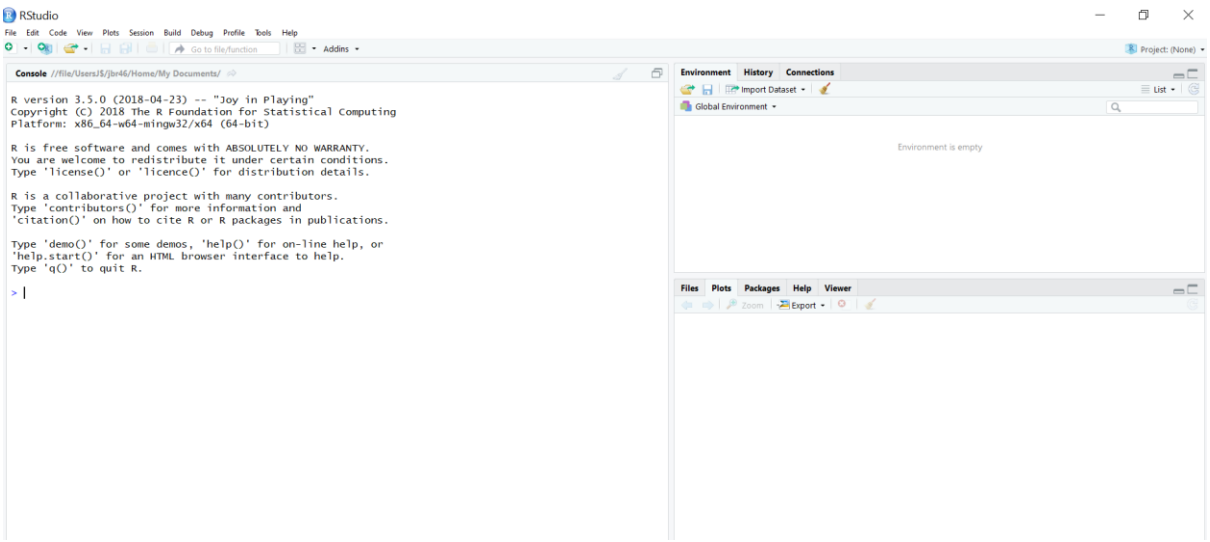
Write your assignment so it can be read easily. You need to include your R code in your assignment, but do not put it in the main part of your assignment. Instead put your R code at the end as an appendix. You can save your R code from the script screen.

Submit your completed assignment by uploading it on the Learn webpage where you downloaded this question sheet. It must be uploaded before the due date.

You can upload more than one version of your assignment, and the most recent version is the one that will be marked.

Question 1

Open R Studio and you will see the Console section where you can type in commands and see output. It may look slightly different depending on the version of R.



Create a variable called price, which is the price of six different bottles of wine, by typing:

```
Price<-c(15.00, 14.10, 15.50, 18.50, 17.50, 19.50)
```

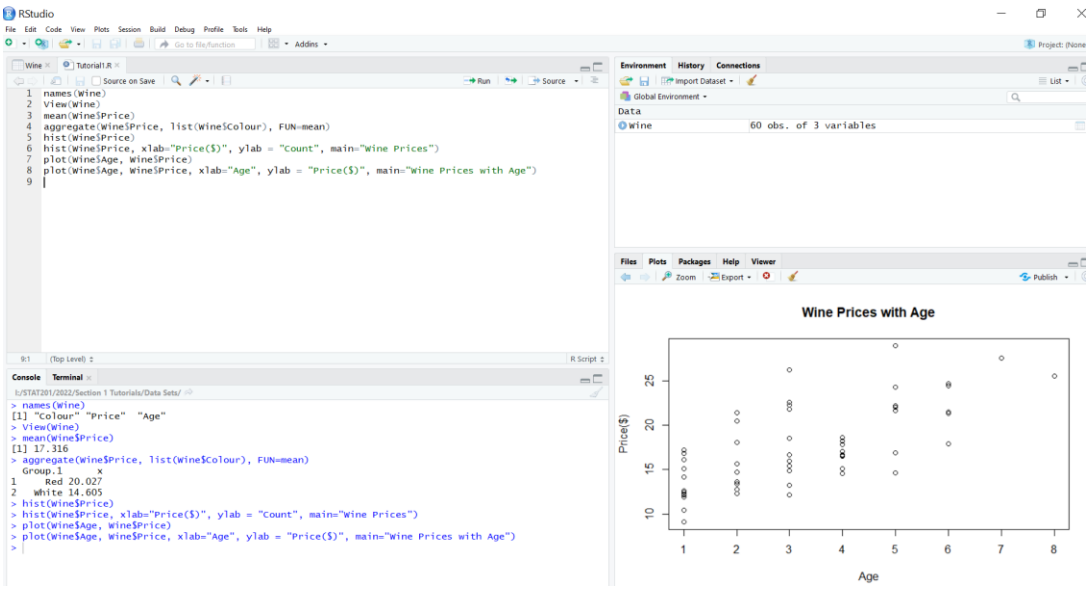
What is the average price of these six bottle of wine? You can find this by typing:

```
mean(Price)
```

This was just the some of the full dataset. Before you import the full dataset clean out the environment by clicking on the broomstick in the right top corner. Import the dataset, wine.csv, using the option in the top right section under the environment tab. You can set the working directory to make it easier to find the data files, by clicking on session on the top left bar, and

selecting working directory. Use the option in the environment tab to import the dataset “from Text”.

When you import your data a 4th section will open in R Studio in the top left, and you can open a new tab in here for your R script (plus option on the top left). Use this for typing in your commands - you then need to click run. You can save your R script by selecting File, and Save-As. This file can be opened in R, and it can be copied into your assignment.



You can see what the dataset looks like in R-studio, by typing (you need to be careful with capital letters) the following:

```
View(wine)
```

What is the average price of the 60 bottles of wine? What happens when you type `mean(Price)`? Instead use this code:

```
mean(wine$Price)
```

What is the average price of the white wine and of the red wine? You can find this by typing:

```
aggregate(wine$Price, list(wine$Colour), FUN=mean)
```

Question 2

Create a histogram of the wine prices and comment what you observe:

```
hist(wine$Price)
```

You can add labels to the axes, and a title with this code:

```
hist(wine$Price, xlab="Price($)", ylab = "Count", main="Wine Prices")
```

Create a plot to look at the relationship between the age of the wine and the price. Comment on what you observe.

```
plot(wine$Age, wine$Price)
```

To have a plot with labels the code is the same as above:

```
plot(wine$Age, wine$Price, xlab="Age", ylab = "Price($)", main="Wine
Prices with Age")
```