R Homework 1

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Statistics 5193

Question 1.

Create an object whose name is your initials and has value 5.2. Add 5 to the object and print the result.

```
FRA <- 5.2
FRA + 5
```

```
## [1] 10.2
```

Question 2.

Create an object called "n" that contains the numbers 1,2,3,4,5,6,7 and an object called fib that contains the numbers 1, 1, 2, 3, 5, 8, 13, 21. Print the mean of fib.

```
n <- c(1,2,3,4,5,6,7)
fib <- c(1, 1, 2, 3, 5, 8, 13, 21)
mean(fib)
```

```
## [1] 6.75
```

Question 3.

Load the MASS package and read the help file.

```
library(MASS)
help(package = "MASS")
```

Question 4.

Provide a short (few words) description of the UScrime data in the MASS package in R.

```
data()
help(UScrime)
```

The Effect of Punishment Regimes on Crime Rates

Question 5.

Consider the DDT data in the MASS package.

a. Provide a brief description of the data.

```
help(DDT)
```

DDT in Kale

A numeric vector of 15 measurements by different laboratories of the pesticide DDT in kale, in ppm (parts per million) using the multiple pesticide residue measurement.

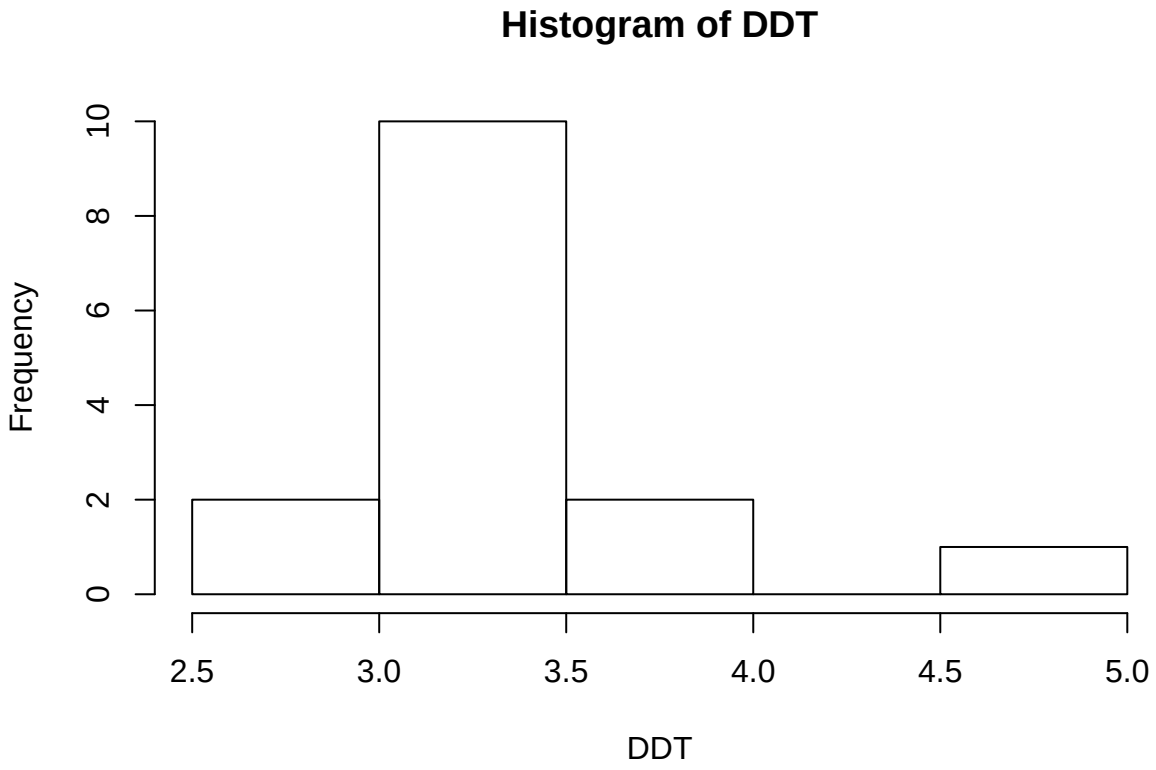
b. Create an object called DDT.CI that contains a 95% confidence interval for the mean DDT level. Use the formula $\bar{X} \pm 2\frac{s}{\sqrt{n}}$

```
DDT.CI <- c(
            mean(DDT)-2*sd(DDT)/sqrt(length(DDT)),
            mean(DDT)+2*sd(DDT)/sqrt(length(DDT))
            )
DDT.CI
```

```
## [1] 3.102255 3.553745
```

c. Construct a histogram of the data using the hist() function.

```
hist(DDT)
```


Histogram of DDT
Frequency
0
2
4
6
8
10
2.5
3.0
3.5
4.0
4.5
5.0
DDT