Assignment 1

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using the default(inbuilt dataset) and loaded it.

```
data("ToothGrowth")
ToothGrowth
```

```
##     len supp dose
## 1   4.2   VC  0.5
## 2  11.5   VC  0.5
## 3   7.3   VC  0.5
## 4   5.8   VC  0.5
## 5   6.4   VC  0.5
## 6  10.0   VC  0.5
## 7  11.2   VC  0.5
## 8  11.2   VC  0.5
## 9   5.2   VC  0.5
## 10  7.0   VC  0.5
## 11 16.5   VC  1.0
## 12 16.5   VC  1.0
## 13 15.2   VC  1.0
## 14 17.3   VC  1.0
## 15 22.5   VC  1.0
## 16 17.3   VC  1.0
## 17 13.6   VC  1.0
## 18 14.5   VC  1.0
## 19 18.8   VC  1.0
## 20 15.5   VC  1.0
## 21 23.6   VC  2.0
## 22 18.5   VC  2.0
## 23 33.9   VC  2.0
## 24 25.5   VC  2.0
## 25 26.4   VC  2.0
## 26 32.5   VC  2.0
## 27 26.7   VC  2.0
## 28 21.5   VC  2.0
## 29 23.3   VC  2.0
## 30 29.5   VC  2.0
## 31 15.2   OJ  0.5
## 32 21.5   OJ  0.5
## 33 17.6   OJ  0.5
## 34  9.7   OJ  0.5
```

```
## 35 14.5   OJ  0.5
## 36 10.0   OJ  0.5
## 37  8.2   OJ  0.5
## 38  9.4   OJ  0.5
## 39 16.5   OJ  0.5
## 40  9.7   OJ  0.5
## 41 19.7   OJ  1.0
## 42 23.3   OJ  1.0
## 43 23.6   OJ  1.0
## 44 26.4   OJ  1.0
## 45 20.0   OJ  1.0
## 46 25.2   OJ  1.0
## 47 25.8   OJ  1.0
## 48 21.2   OJ  1.0
## 49 14.5   OJ  1.0
## 50 27.3   OJ  1.0
## 51 25.5   OJ  2.0
## 52 26.4   OJ  2.0
## 53 22.4   OJ  2.0
## 54 24.5   OJ  2.0
## 55 24.8   OJ  2.0
## 56 30.9   OJ  2.0
## 57 26.4   OJ  2.0
## 58 27.3   OJ  2.0
## 59 29.4   OJ  2.0
## 60 23.0   OJ  2.0
```

#Printing out descriptive statistics for a selection of quantitative and categorical variables.

```
summary(ToothGrowth)
```

```
##       len        supp         dose
##  Min.   : 4.20   OJ:30   Min.   :0.500
##  1st Qu.:13.07   VC:30   1st Qu.:0.500
##  Median :19.25           Median :1.000
##  Mean   :18.81           Mean   :1.167
##  3rd Qu.:25.27           3rd Qu.:2.000
##  Max.   :33.90           Max.   :2.000
```

```
head(ToothGrowth)
```

```
##    len supp dose
## 1  4.2   VC  0.5
## 2 11.5   VC  0.5
## 3  7.3   VC  0.5
## 4  5.8   VC  0.5
## 5  6.4   VC  0.5
## 6 10.0   VC  0.5
```

```
tail(ToothGrowth)
```

```
##     len supp dose
```

```
## 55 24.8   OJ    2
## 56 30.9   OJ    2
## 57 26.4   OJ    2
## 58 27.3   OJ    2
## 59 29.4   OJ    2
## 60 23.0   OJ    2
```

#Printing out categorical variables.

```
table(ToothGrowth$supp)
```

```
##
## OJ VC
## 30 30
```

#Transforming variable.

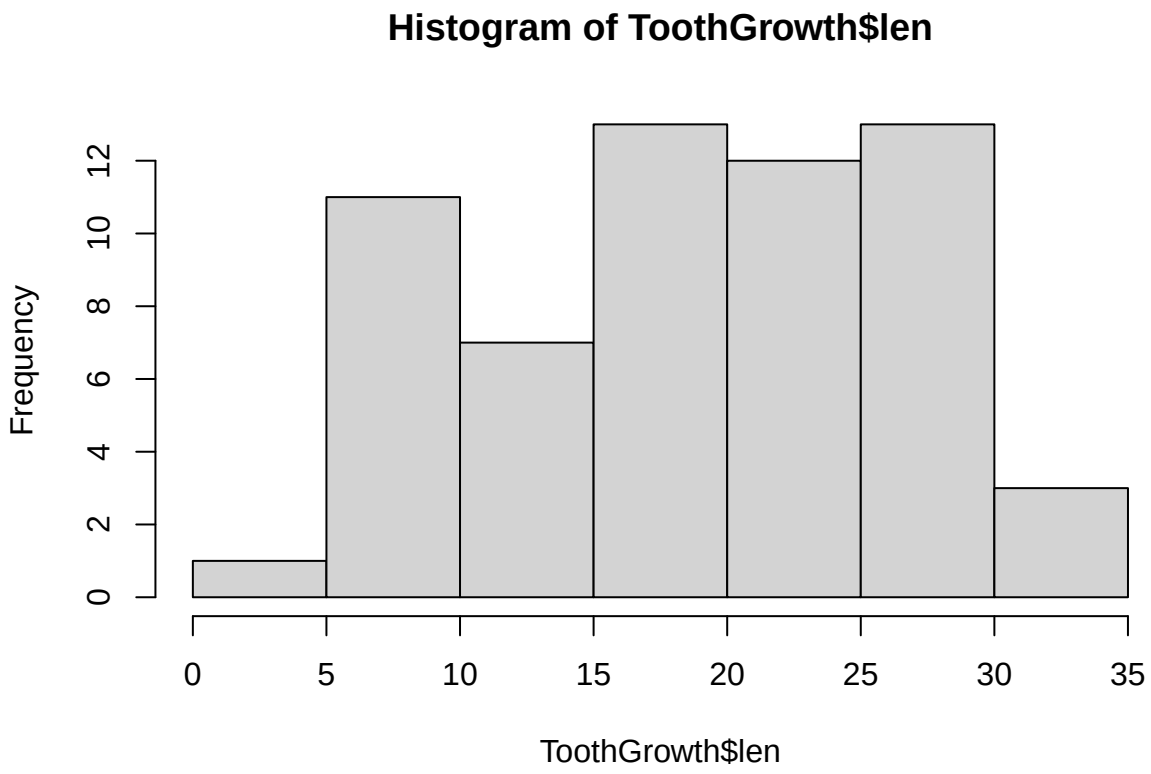
```
ToothGrowth$len_Transforming <- log(ToothGrowth$len)

ToothGrowth$len_Transforming
```

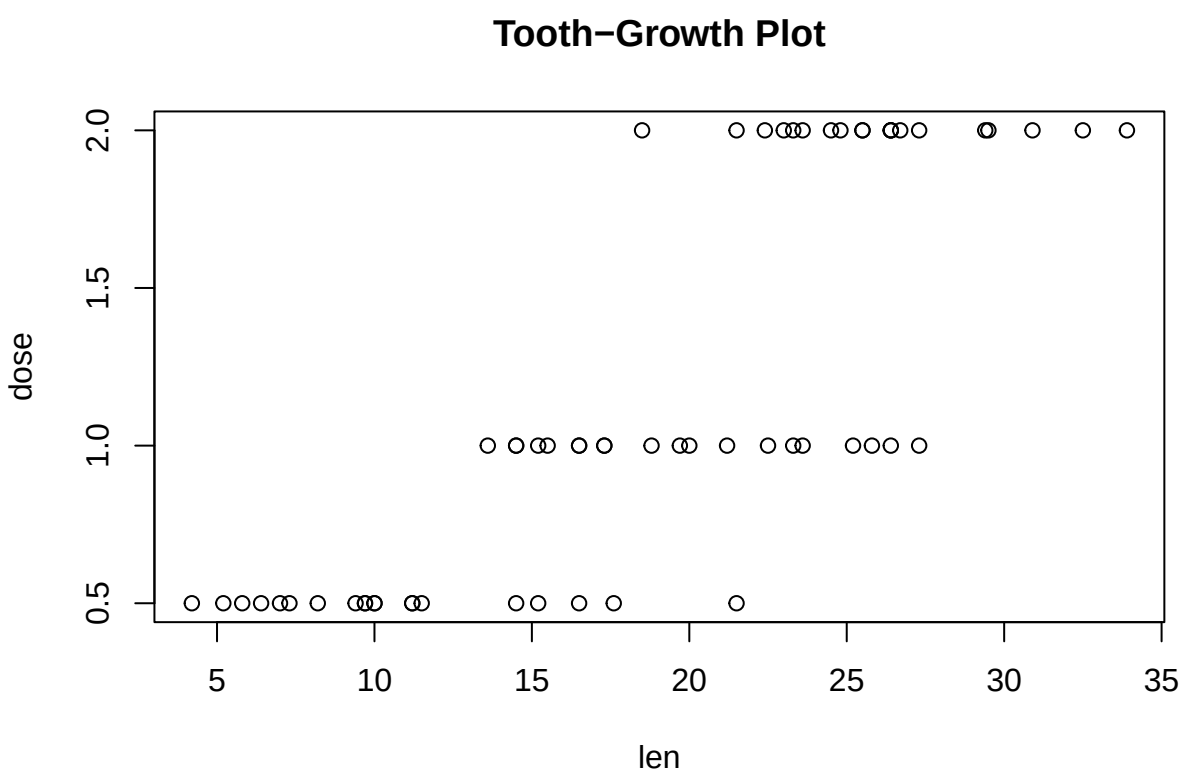
```
##  [1] 1.435085 2.442347 1.987874 1.757858 1.856298 2.302585 2.415914 2.415914
##  [9] 1.648659 1.945910 2.803360 2.803360 2.721295 2.850707 3.113515 2.850707
## [17] 2.610070 2.674149 2.933857 2.740840 3.161247 2.917771 3.523415 3.238678
## [25] 3.273364 3.481240 3.284664 3.068053 3.148453 3.384390 2.721295 3.068053
## [33] 2.867899 2.272126 2.674149 2.302585 2.104134 2.240710 2.803360 2.272126
## [41] 2.980619 3.148453 3.161247 3.273364 2.995732 3.226844 3.250374 3.054001
## [49] 2.674149 3.306887 3.238678 3.273364 3.109061 3.198673 3.210844 3.430756
## [57] 3.273364 3.306887 3.380995 3.135494
```

#Plotting one quantitative variable (Hist graph), and one scatterplot

```
hist(ToothGrowth$len)
```




```r
x <- ToothGrowth$len #tooth length
y <- ToothGrowth$dose
plot(x,y,xlab="len",ylab = "dose",main = "Tooth-Growth Plot")
```


Tooth−Growth Plot
dose
0.5
1.0
1.5
2.0
5
10
15
20
25
30
35
len