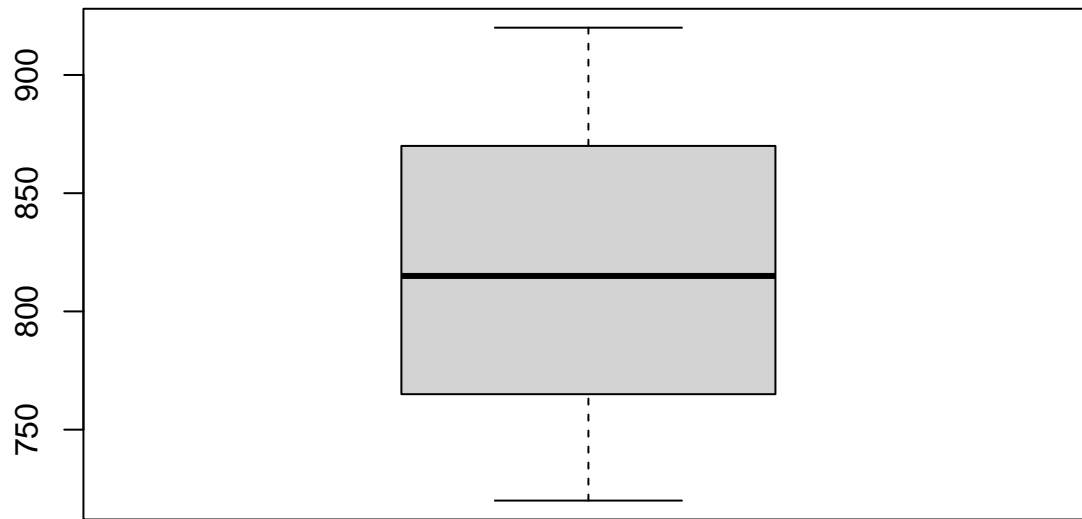# Homework 1

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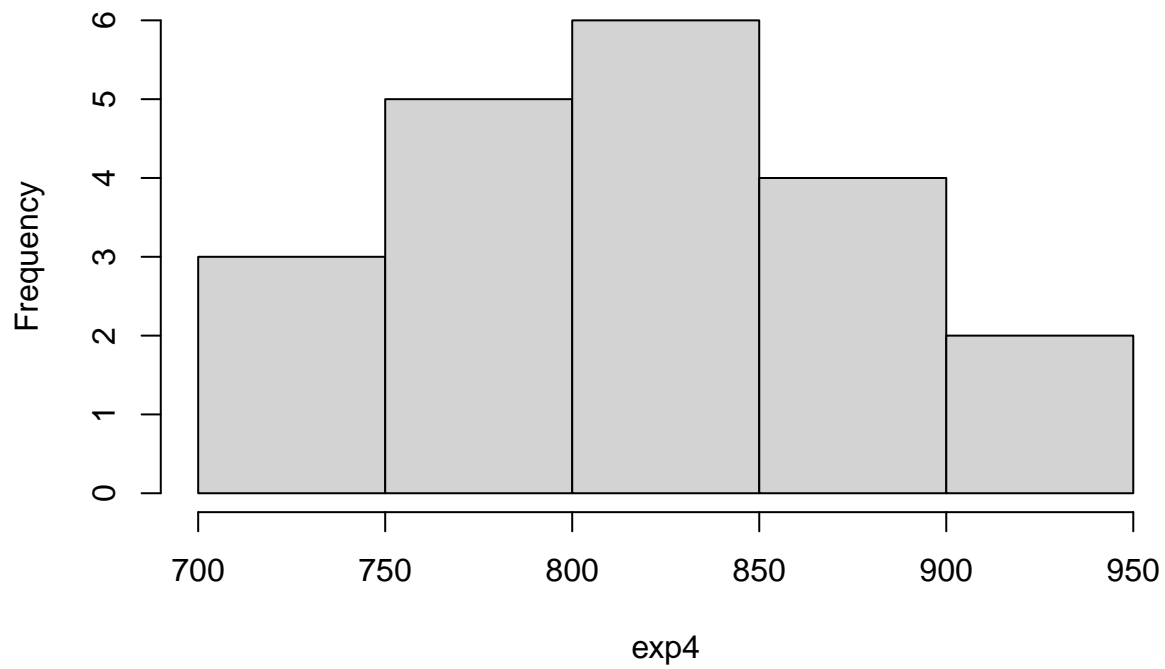
Problem 2

```
exp4 = morley$Speed[morley$Expt == 4]
boxplot(exp4)
```
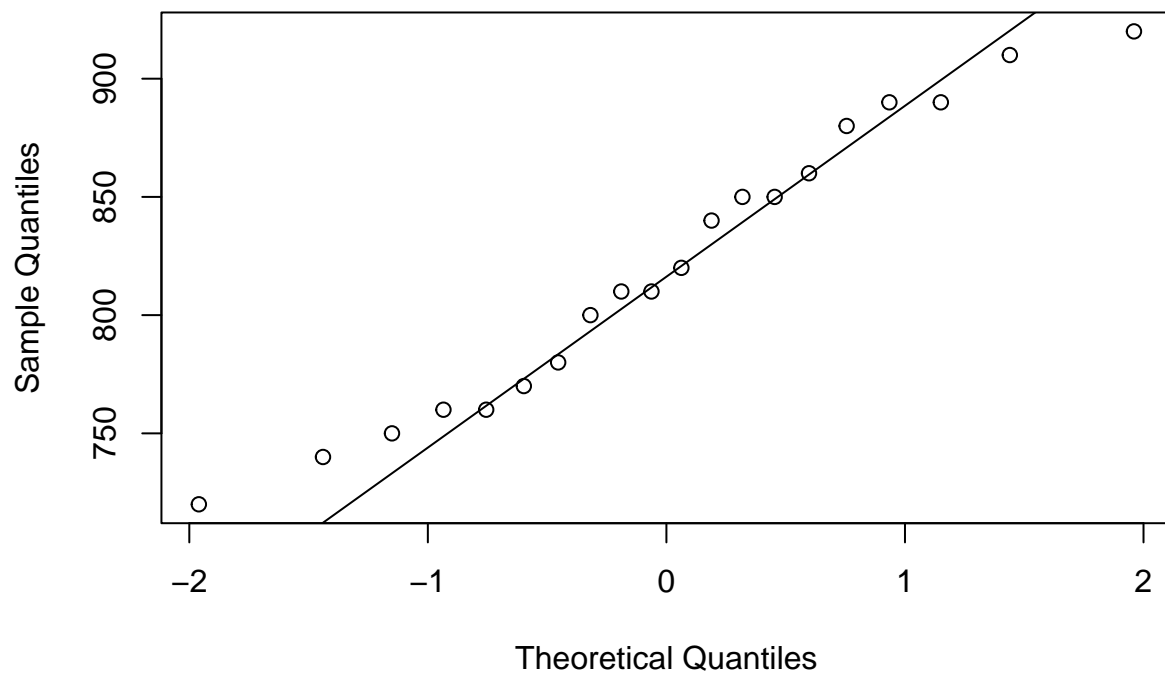


```
hist(exp4)
```

Histogram of exp4


```
qqnorm(exp4)
qqline(exp4)
```

Normal Q–Q Plot

```
shapiro.test(exp4)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  exp4
## W = 0.96113, p-value = 0.5667
```

```
t.test(exp4, conf.level = 0.97)
```

```
##
##  One Sample t-test
##
## data:  exp4
## t = 61.114, df = 19, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 97 percent confidence interval:
##  789.008 851.992
## sample estimates:
## mean of x
##     820.5
```

We can conclude the distribution is normal

The interval is **789.008 851.992**

Problem 4

```
bites = c(38, 10, 84, 36, 50, 35, 73, 48, 32, 16, 57, 28, 55, 12, 61, 29)
m = matrix(bites, nrow=2, byrow=T)

res = chisq.test(m)
res$p.value
```

```
## [1] 0.03680208
```

p-value $< 0.05 \Rightarrow$ we can conclude that there has been a change in the number of bites