# Hypothesis Testing-cutlets

```
> ## Normality Test ##

> ad.test(Unit.A)

        Anderson-Darling normality test

data:  Unit.A
A = 0.43309, p-value = 0.2866

> ad.test(Unit.B)

        Anderson-Darling normality test

data:  Unit.B
A = 0.26123, p-value = 0.6869


> shapiro.test(Unit.A)

        Shapiro-Wilk normality test

data:  Unit.A
W = 0.96495, p-value = 0.32

> shapiro.test(Unit.B)

        Shapiro-Wilk normality test

data:  Unit.B
W = 0.97273, p-value = 0.5225
```

**Both Unit A and Unit B are normally distributed.**

```
> var.test(Unit.A,Unit.B)

        F test to compare two variances

data:  Unit.A and Unit.B
F = 0.70536, num df = 34, denom df = 34, p-value = 0.3136
alternative hypothesis: true ratio of variances is not equal to 1
95 percent confidence interval:
 0.3560436 1.3974120
sample estimates:
ratio of variances
         0.7053649


## 2 Sample T-test ##
> t.test(Unit.A,Unit.B,alternative = "two.sided",
+        conf.level = 0.95,correct = TRUE)

        Welch Two Sample t-test
```

```
data:  Unit.A and Unit.B
t = 0.72287, df = 66.029, p-value = 0.4723
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.09654633  0.20613490
sample estimates:
mean of x mean of y
 7.019091  6.964297
```

**P value is 0.472 > 0.05 , so accepting Ho and rejecting H1**

```
## 2 Sample T-test ##
> t.test(Unit.A,Unit.B,alternative = "greater",
+        conf.level = 0.95,correct = TRUE)

        Welch Two Sample t-test

data:  Unit.A and Unit.B
t = 0.72287, df = 66.029, p-value = 0.2362
alternative hypothesis: true difference in means is greater than 0
95 percent confidence interval:
 -0.07166173         Inf
sample estimates:
mean of x mean of y
 7.019091  6.964297
```

**P value is 0.236 > 0.05 , so accepting Ho and rejecting H1**

```
## 2 Sample T-test ##
> t.test(Unit.A,Unit.B,alternative = "less",
+        conf.level = 0.95,correct = TRUE)

        Welch Two Sample t-test

data:  Unit.A and Unit.B
t = 0.72287, df = 66.029, p-value = 0.7638
alternative hypothesis: true difference in means is less than 0
95 percent confidence interval:
      -Inf 0.1812503
sample estimates:
mean of x mean of y
 7.019091  6.964297
```

**P value is 0.764 > 0.05 , so accepting Ho and rejecting H1**