

```
> #perform t-test
> x<-rnorm(100)#define sample vector
> #1-sample t-test
> t.test(x,mu=5)
```

One Sample t-test

```
data: x
t = -51.161, df = 99, p-value < 2.2e-16
alternative hypothesis: true mean is not equal to 5
95 percent confidence interval:
 -0.1960962 0.1919011
sample estimates:
 mean of x
-0.002097555
```

```
> #2-sample t-test
> m<-rnorm(50)
> n<-rnorm(50)
> t.test(m,n)
```

Welch Two Sample t-test

```
data: m and n
t = -1.0189, df = 97.552, p-value = 0.3108
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.6105396 0.1962993
sample estimates:
 mean of x mean of y
-0.0995753 0.1075448
```

```
> #Directional Hypothesis
> a<-rnorm(150)
> t.test(a, mu = 2, alternative = 'greater')
```

One Sample t-test

```
data: a
t = -23.235, df = 149, p-value = 1
alternative hypothesis: true mean is greater than 2
95 percent confidence interval:
 -0.239382      Inf
sample estimates:
 mean of x
-0.09046681
```

```
> #One Sample mu-Test
> b<-rnorm(70)
> wilcox.test(b, exact = FALSE)
```

Wilcoxon signed rank test with continuity correction

```
data: b
V = 1661, p-value = 0.01444
alternative hypothesis: true location is not equal to 0
```

```
> #2 sample mu-test
> c<-rnorm(55)
> d<-rnorm(50)
> wilcox.test(c,d)
```

Wilcoxon rank sum test with continuity correction

```
data: c and d
W = 1574, p-value = 0.2028
alternative hypothesis: true location shift is not equal to 0
```

```
> #correlation test
> cor.test(mtcars$mpg, mtcars$hp)
```

Pearson's product-moment correlation

```
data: mtcars$mpg and mtcars$hp
t = -6.7424, df = 30, p-value = 1.788e-07
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.8852686 -0.5860994
sample estimates:
 cor
-0.7761684
```

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5 #2-sample t-test
6 m<-rnorm(50)
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8 t.test(m,n)
9 #Directional Hypothesis
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11 t.test(a, mu = 2, alternative = 'greater')
12 #One Sample mu-Test
13 b<-rnorm(70)
14 wilcox.test(b, exact = FALSE)
15 #2 sample mu-test
16 c<-rnorm(55)
17 d<-rnorm(50)
18 wilcox.test(c,d)
19 #correlation test
20 cor.test(mtcars$mpg, mtcars$hp)
21
22
```

21:1 (Top Level) ↕ R Script ↕

Console

R Global Environment

values	
a	num [1:150] -0.653 -0.733 -0.623 0.417 0.039 ...
b	num [1:70] -1.199 -1.348 1.215 0.248 -0.673 ...
c	num [1:55] 0.1286 0.0983 1.3819 0.8859 0.3571 ...
d	num [1:50] -0.568 -0.652 1.08 -0.277 1.508 ...
m	num [1:50] 1.02 0.52 -0.616 -0.49 0.184 ...
n	num [1:50] 1.37 -1.06 1.27 -1.71 1.12 ...
x	num [1:100] -0.5623 -1.4889 1.985 0.8964 -0.0203 ...

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