

```
> read.csv(file.choose())->mydata
```

```
> mydata
```

```
  house price
1     5 100000
2     4 105000
3     2 107000
4     3 111000
5     6 113000
6     8 120000
7     9 125000
8    10 126000
9     1 132000
10    7 135000
```

```
> library("BSDA")
```

```
Loading required package: lattice
```

```
Attaching package: 'BSDA'
```

```
The following object is masked from 'package:datasets':
```

```
Orange
```

```
> SIGN.test(mydata$price,md=110000,alternative="greater")
```

```
One-sample Sign-Test
```

```
data: mydata$price
```

```
s = 7, p-value = 0.1719
```

```
alternative hypothesis: true median is greater than 110000
```

```
95 percent confidence interval:
```

```
106786.7      Inf
```

```
sample estimates:
```

```
median of x
```

```
116500
```

```
Achieved and Interpolated Confidence Intervals:
```

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9453	107000.0	Inf
Interpolated CI	0.9500	106786.7	Inf
Upper Achieved CI	0.9893	105000.0	Inf

```
>
```

```
> read.csv(file.choose())->mydata
```

```
> mydata
```

```
 pair gum no.gum
1     1  9     10
2     2  6      8
3     3  3      1
4     4  3      5
5     5  4      4
6     6  2      7
7     7  2      6
8     8  8     10
9     9  6      8
10    10  1      3
```

```
> SIGN.test(x=mydata$gum,y=mydata$no.gum,alternative="less")
```

```
Dependent-samples Sign-Test
```

```
data: mydata$gum and mydata$no.gum
```

```
S = 1, p-value = 0.01953
```

```
alternative hypothesis: true median difference is less than 0
```

```
95 percent confidence interval:
```

```
-Inf -0.8933333
```

sample estimates:
median of x-y
-2

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9453	-Inf	-1.0000
Interpolated CI	0.9500	-Inf	-0.8933
Upper Achieved CI	0.9893	-Inf	0.0000

```
>
> read.csv(file.choose())->mydata
> mydata
  subj before after
1     1     40    44
2     2     33    40
3     3     36    49
4     4     34    36
5     5     40    39
6     6     31    40
7     7     30    27
8     8     36    42
9     9     24    35
10    10     20    28
> wilcox.test(mydata$after,mydata$before,paired=T,alternative="greater")
```

Wilcoxon signed rank test

data: mydata\$after and mydata\$before
V = 51, p-value = 0.006836
alternative hypothesis: true location shift is greater than 0

```
> median(mydata$before)
[1] 33.5
> median(mydata$after)
[1] 39.5
```