

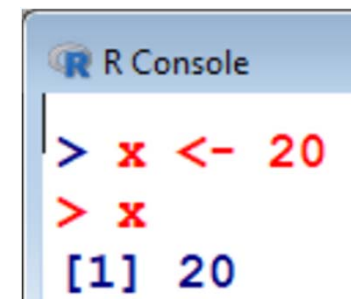
## Basics

> is the prompt sign in R.

The assignment operators are the left arrow with dash <-

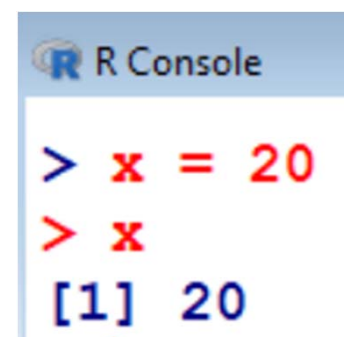
and equal sign =.

> x <- 20 assigns the value 20 to x.



```
R Console
> x <- 20
> x
[1] 20
```

> x = 20 assigns the value 20 to x.



```
R Console
> x = 20
> x
[1] 20
```

Initially only <- was available in R.

## Basics

> **x = 20** assigns the value 20 to **x**.

> **y = 3 \* x** assigns the value **3 \* x** to **y**.

```
R Console
> y = x * 3
> y
[1] 60
>
```

> **z = x - y** assigns the value **x - y** to **z**.

```
R Console
> z = x - y
> z
[1] -40
```

## Basics

The command `c(1,2,3,4)` combines the numbers 1,2,3 and 4 to a vector.

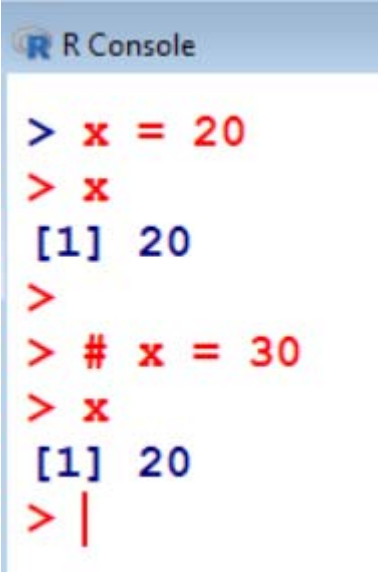
## Basics

**#** : The character # marks the beginning of a comment.

All characters until the end of the line are ignored.

> **# mu** is the mean

> **# x = 20** is treated as comment only



```
R Console
> x = 20
> x
[1] 20
>
> # x = 30
> x
[1] 20
> |
```

## Basics

Capital and small letters are different.

`> X = 20` and `> x = 20` are different

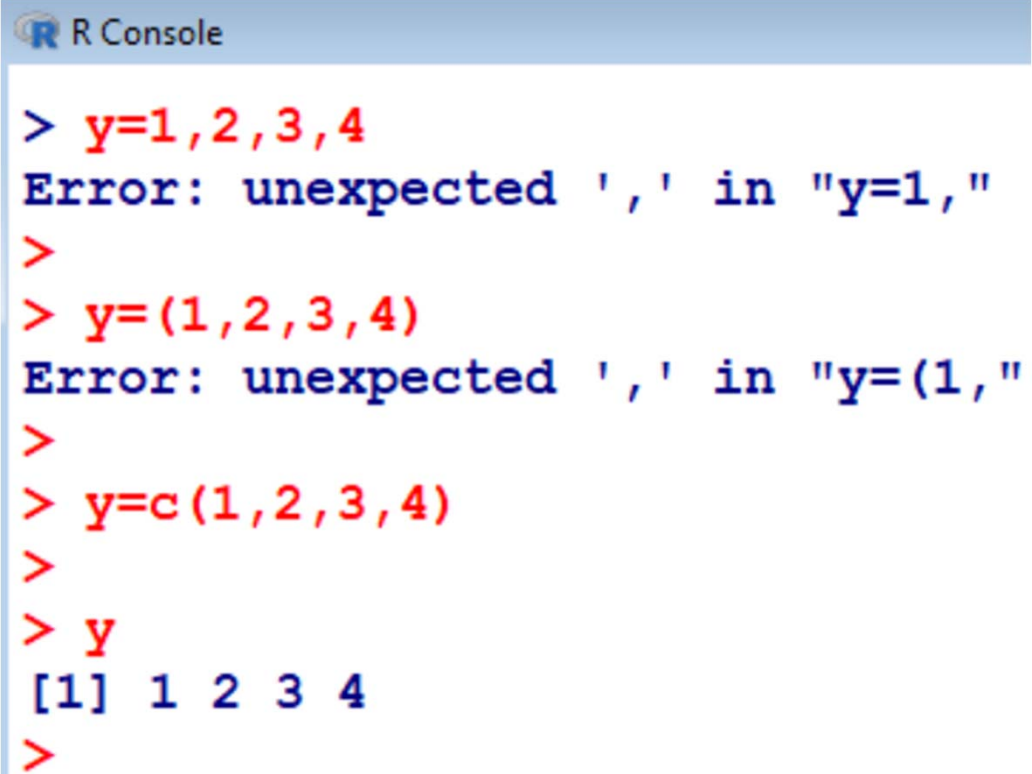
```
R Console  
> X = 20  
> X  
[1] 20
```

```
R Console  
> x=20  
> x  
[1] 20  
>  
> X  
Error: object 'X' not found  
>  
> x=10  
> x  
[1] 10  
>  
> x  
[1] 20
```

## Basics

The command `c(1,2,3,4)` combines the numbers 1,2,3 and 4 to a vector.

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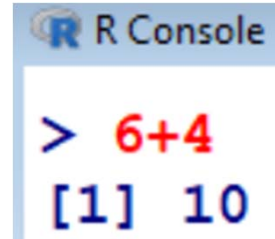


```
R Console
> y=1,2,3,4
Error: unexpected ',' in "y=1,"
>
> y=(1,2,3,4)
Error: unexpected ',' in "y=(1,"
>
> y=c(1,2,3,4)
>
> y
[1] 1 2 3 4
>
```

# R as a calculator

## Addition

```
> 6+4          # Command  
[1] 10         # Output
```

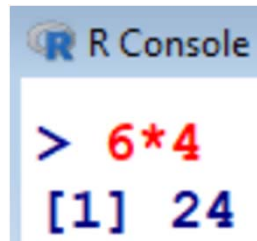


R Console

```
> 6+4  
[1] 10
```

## Multiplication

```
> 6*4          # Command  
[1] 24         # Output
```



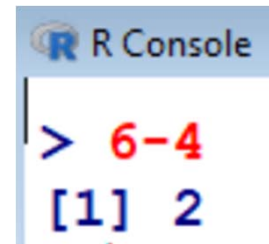
R Console

```
> 6*4  
[1] 24
```

# R as a calculator

## Subtraction

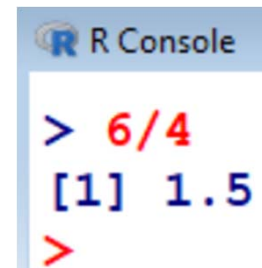
```
> 6-4      # Command  
[1] 2      # Output
```

A screenshot of the R Console window showing the command '6-4' and the output '[1] 2'. The prompt '>' is in red, and the output is in blue. The window title is 'R Console' with the R logo.

```
R Console  
> 6-4  
[1] 2
```

## Division

```
> 6/4      # Command  
[1] 1.5     # Output
```

A screenshot of the R Console window showing the command '6/4' and the output '[1] 1.5'. The prompt '>' is in red, and the output is in blue. The window title is 'R Console' with the R logo.

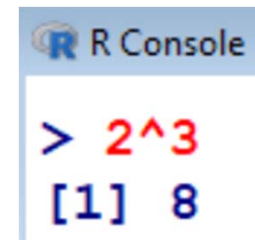
```
R Console  
> 6/4  
[1] 1.5  
>
```



# R as a calculator

## Power

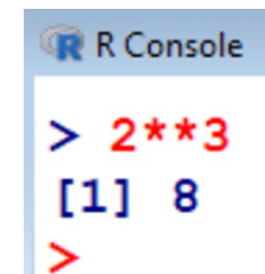
```
> 2^3          # Command  
[1] 8          # Output
```



R Console

```
> 2^3  
[1] 8
```

```
> 2**3         # Command  
[1] 8           # Output
```



R Console

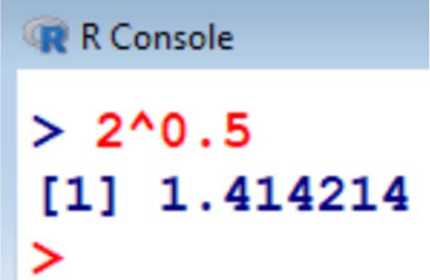
```
> 2**3  
[1] 8  
>
```

$2^3$

# R as a calculator

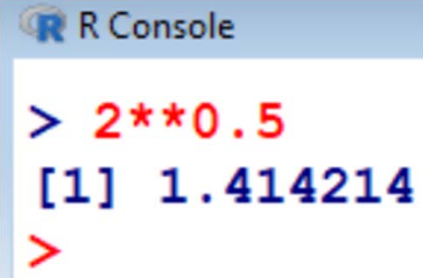
## Power

```
> 2^0.5      # Command  
[1] 1.732051  # Output
```

A screenshot of the R Console window. The title bar says "R Console". The prompt ">" is followed by the command "2^0.5" in red. The output "[1] 1.414214" is shown in blue. A red ">" prompt is at the bottom.

```
R Console  
> 2^0.5  
[1] 1.414214  
>
```

```
> 2**0.5     # Command  
[1] 1.732051  # Output
```

A screenshot of the R Console window. The title bar says "R Console". The prompt ">" is followed by the command "2\*\*0.5" in red. The output "[1] 1.414214" is shown in blue. A red ">" prompt is at the bottom.

```
R Console  
> 2**0.5  
[1] 1.414214  
>
```

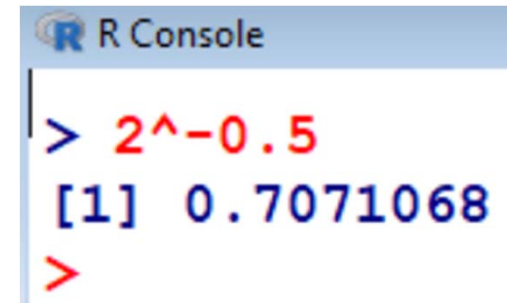
$2^{1/2}$

# R as a calculator

## Power

```
> 2^-0.5      # Command  
[1] 0.5773503  # Output
```

$$2^{-1/2}$$

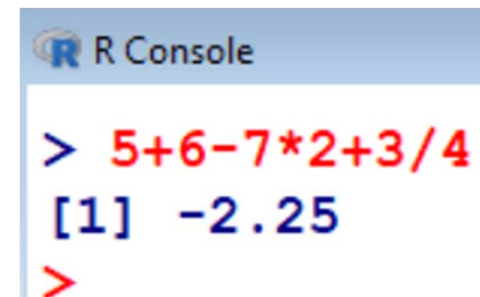


```
R Console  
> 2^-0.5  
[1] 0.7071068  
>
```

## Multiple operators (BODMAS)

Bracket, Of, Division, Multiplication, Addition, and Subtraction

```
> 5+6-7*2+3/4  # Command  
[1] -2.25       # Output
```



```
R Console  
> 5+6-7*2+3/4  
[1] -2.25  
>
```