Introduction to R Software

Swayam Prabha

Lecture 6

Basics of Calculations and R as a Calculator

Shalabh

Department of Mathematics and Statistics

Indian Institute of Technology Kanpur

Slides can be downloaded from

http://home.iitk.ac.in/~shalab/sp

Basics

- `>` is the prompt sign in R.

- The assignment operators are the left arrow with dash <-

  and equal sign =.

  `> x <- 40` assigns the value 40 to `x`.

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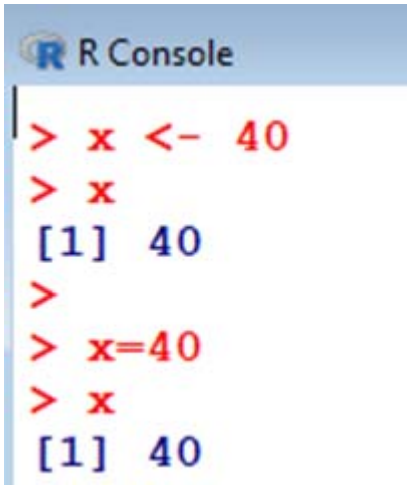


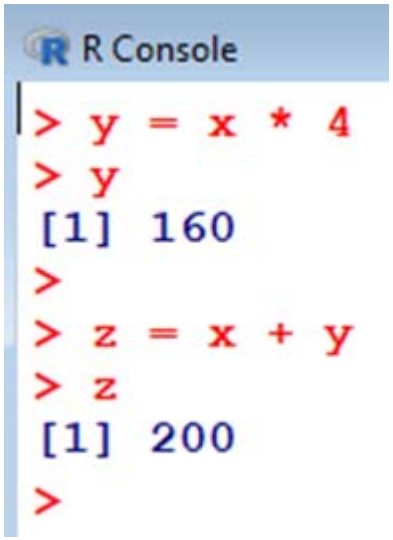
Initially only `<-` was available in R.

Basics

`> x = 40` assigns the value 40 to `x`.

`> y = x * 4` assigns the value `4*x` to `y`.

`> z = x + y` assigns the value `x + y` to `z`.

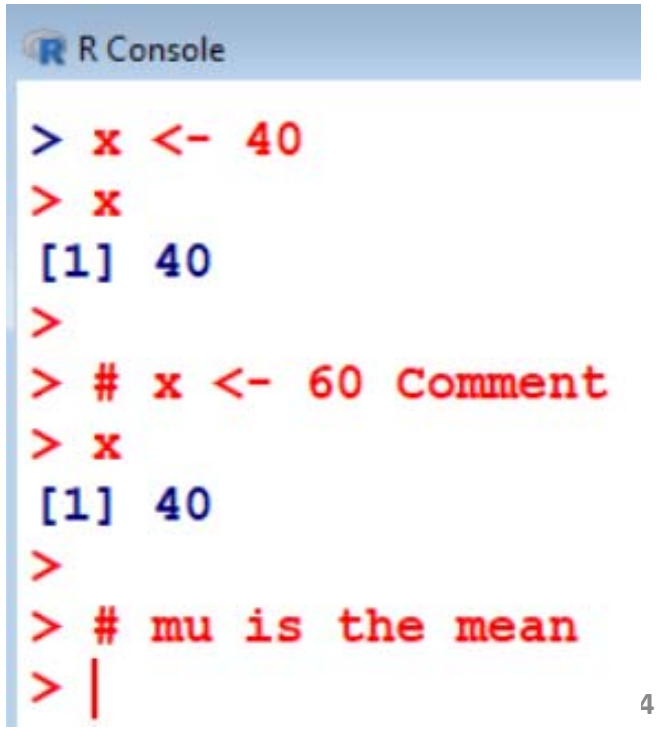


Basics

 # : The character # marks the beginning of a comment. All characters until the end of the line are ignored.

```
> # mu
```
is the mean

```
> # x <- 40
```
is treated as comment only



Basics

Capital and small letters are different.

`X <- 40` **and** `x <- 50` **are different**

```
R Console
> x <- 40
> x
[1] 40
>
> X <- 50
> X
[1] 50
>
> x
[1] 40
>
```

Basics

The command `c(6,7,8,9,10)` combines the numbers 6, 7, 8, 9 and 10 to a vector.

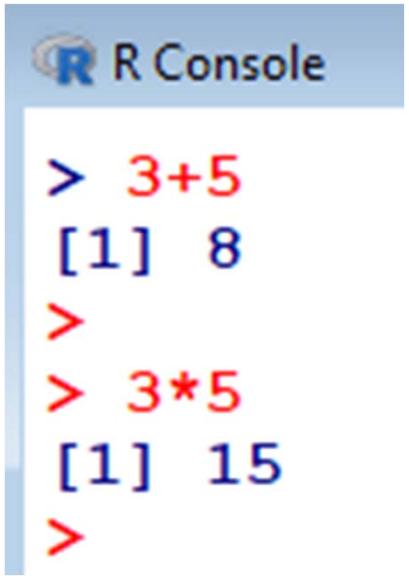
R Console

```
> y=6,7,8,9,10
Error: unexpected ',' in "y=6,"
>
> y=(6,7,8,9,10)
Error: unexpected ',' in "y=(6,"
>
> y=c(6,7,8,9,10)
>
> y
[1]  6  7  8  9 10
>
```

R as a calculator

```
> 3+5          # Command
[1] 8          # Output

> 3*5          # Command
[1] 15         # Output
```

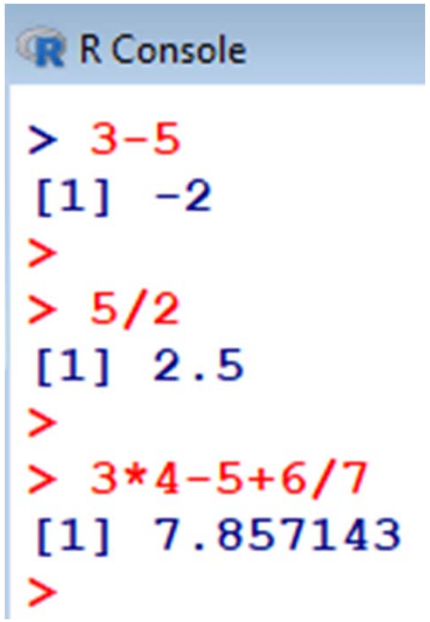


R as a calculator

```
> 3-5          # Command
[1] -2         # Output

> 5/2          # Command
[1] 2.5        # Output

> 3*4-5+6/7    # Command BODMAS
[1] 7.857143 # Output
```

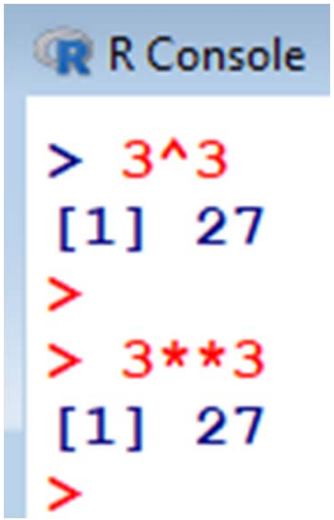


Bracket, Of, Division, Multiplication, Addition, and Subtraction.

R as a calculator

```
> 3^3          # Command
[1] 27         # Output


> 3**3         # Command
[1] 27         # Output
```



R as a calculator

```
> 3^0.5          # Command
[1] 1.732051     # Output

> 3**0.5         # Command
[1] 1.732051     # Output

> 3^-0.5         # Command
[1] 0.5773503    # Output
```