

Bonus: Built-in Numerical Functions: Exercises



Hello, everybody! This is a bonus set of exercises that r_exercises.com kindly provided.

In this exercise, we are going to talk about R built-in functions. Functions are the most useful tools for every kind of R project. Almost everything can be done through them. In this article, we will refer to 10 numerical functions that you will for sure need in the future.

Answers to the exercises are available [here](#).

Absolute Value

In mathematics, the absolute value or modulus $|x|$ of a real number “x” is the non-negative value of “x” without regard to its sign. The relative function in R is `abs(x)`. Here is an example:

```
abs(-5)
[1] 5
```

Exercise 1

Find the absolute value of -10.

Square Root

In mathematics, a square root of a number is a number “y” such that $y^2 = a$. In R, we use `sqrt(x)` to find the square root of a number. Here is an example:

```
sqrt(16)
```

```
[1] 4
```

Exercise 2

Find the square root of 36.

Ceiling

Round a number up to the nearest integer or to the nearest multiple of significance. The R function for this is `ceiling(x)`. Here is an example:

```
ceiling(3.4567)
```

```
[1] 4
```

Exercise 3

Round the number 4.5678 up to the nearest integer.

Floor

Round a number down to the nearest integer or to the nearest multiple of significance. The R function for this is `floor(x)`. Here is an example:

```
floor(3.4567)
```

```
[1] 3
```

Exercise 4

Round the number 4.5678 down to nearest integer.

Trunc

The `trunc(x)` takes a single numeric argument "x" and returns a numeric vector containing the integers formed by truncating the values in "x" toward 0. Here is an example:

```
trunc(7.33)
```

```
[1] 7
```

Exercise 5

Truncate the number 8.12.

Round

The `round(x, digits=n)` rounds the values in its first argument to the specified number of decimal places. The `digits` argument returns the number of digits we can't in the final result. Here is an example:

```
round(3.456, digits=2)
[1] 3.46
```

Exercise 6

Round the number 4.321 with 1 digit in return.

Signify

The `signif(x, digits=n)` rounds the values in its first argument to the specified number of significant digits. Here is an example:

```
signif(3.567, digits=2)
[1] 3.6
```

Exercise 7

Round the number 4.567 with the specified number of digits =2.

Logarithms

The `log(x)` computes logarithms by default natural logarithms (`log10(x)`), computes common logarithms, and `log2(x)` computes binary logarithms. The general form `log(x, base)` computes logarithms with base `base`. Here is an example:

```
log(10)
[1] 2.302585
```

Exercise 8

Compute the natural logarithm of 10.

Exercise 9

Compute the common logarithm of 10.

Exponential function:

The `exp(x)` computes the exponential function of a number. Here is an example:

```
exp(10)
```

```
[1] 22026.47
```

Exercise 10

Compute the exponential of number 5.