

R Variables and Constants



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In this article, you'll learn about variables and constants in R. You'll learn the best practices for using a variable in your program.

Variables in R

Variables are used to store data, whose value can be changed according to our need. Unique name given to variable (function and objects as well) is identifier.

Rules for writing Identifiers in R

1. Identifiers can be a combination of letters, digits, period (.) and underscore (_).
 2. It must start with a letter or a period. If it starts with a period, it cannot be followed by a digit.
 3. Reserved words in R cannot be used as identifiers.
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Valid identifiers in R

`total`, `Sum`, `.fine.with.dot`, `this_is_acceptable`, `Number5`

Invalid identifiers in R

`tot@l`, `5um`, `_fine`, `TRUE`, `.0ne`

Best Practices

Earlier versions of R used underscore (_) as an assignment operator. So, the period (.) was used extensively in variable names having multiple words.

Current versions of R support underscore as a valid identifier but it is good practice to use period as word separators.

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For example, `a.variable.name` is preferred over `a_variable_name` or alternatively we could use camel case as `aVariableName`

Constants in R

Constants, as the name suggests, are entities whose value cannot be altered. Basic types of constant are numeric constants and character constants.

Numeric Constants

All numbers fall under this category. They can be of type `integer`, `double` or `complex`.

It can be checked with the `typeof()` function.

Numeric constants followed by `L` are regarded as `integer` and those followed by `i` are regarded as `complex`.

```
> typeof(5)
[1] "double"
> typeof(5L)
[1] "integer"
> typeof(5i)
[1] "complex"
```

Numeric constants preceded by `0x` or `0X` are interpreted as hexadecimal numbers.

```
> 0xff
[1] 255
> 0XF + 1
[1] 16
```

Character Constants

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Character constants can be represented using either single quotes (') or double quotes (") as delimiters.

```
> 'example'
[1] "example"
> typeof("5")
[1] "character"
```

Built-in Constants

Some of the built-in constants defined in R along with their values is shown below.

```
> LETTERS
[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S"
[20] "T" "U" "V" "W" "X" "Y" "Z"
> letters
[1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s"
[20] "t" "u" "v" "w" "x" "y" "z"
> pi
[1] 3.141593
> month.name
[1] "January" "February" "March" "April" "May" "June"
[7] "July" "August" "September" "October" "November" "December"
> month.abb
[1] "Jan" "Feb" "Mar" "Apr" "May" "Jun" "Jul" "Aug" "Sep" "Oct" "Nov" "Dec"
```

But it is not good to rely on these, as they are implemented as variables whose values can be changed.

```
> pi
[1] 3.141593
> pi <- 56
> pi
[1] 56
```