Storing a single value

In R programming a "variable" is simply a useful container in which a value may be stored for subsequent use by the program. The stored value may be changed (vary) as the R Script program executes its instructions – hence the term "variable".

A variable is created in R Script by writing a unique identifier name of your choice in the Code Editor, then assigning an initial value to be stored within the variable. The stored value can subsequently be retrieved using the given variable name.

The value can be assigned to a variable in R programming using the **<-** assignment operator. For example, to assign a number to a variable named "dozen", like this:

dozen <- 12

Variable names are chosen by the programmer but must adhere to certain naming conventions. The variable name may only begin with a letter, or a period followed by a letter, and may subsequently contain only letters, digits, periods, or underscore characters. Names are case-sensitive, so "var" and "Var" are distinctly different names, and spaces are not allowed in names.

Variable names should also avoid the reserved words, listed in the table below, as these have special meaning in the R language.
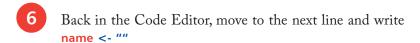
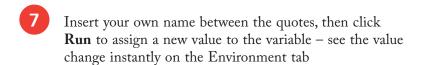| if	else	repeat	while
function	for	in	next
break	TRUE	FALSE	NULL
Inf	NaN	NA	NA_integer
NA_real	NA_complex	NA_character	return

It is good practice to name variables with words that readily describe that variable's purpose. For example, **revenue** and **expenses** to describe income and costs. Lowercase letters are preferred by many R programmers, and variable names that consist of multiple words can separate each word with a period character. For example, a variable named **net.profit** to describe profit after costs deducted from income.

Beware

Values can also be assigned using the = assignment operator, but this is best used only to assign default values to function parameters.

Hot tip

Enter the **?reserved** command in the Console at any time to see the list of reserved words appear on the Help tab in the Notebook pane.

1 Open RStudio then click **File**, **New File**, **R Script**, or press **Ctrl** + **Shift** + **N**, to open a new Code Editor pane

FirstVariable.R

2 In the Code Editor, type **name** as the variable name

3 Type **<-** or press **Alt** + **-** to add the assignment operator

4 Next, press the " key to add two double quotes, then type **Username** between the quotes

5 Ensure that the cursor is positioned on the same line as your code, then click **Run**, or press **Ctrl** + **Enter** – see the variable and its value now appear on the Environment tab
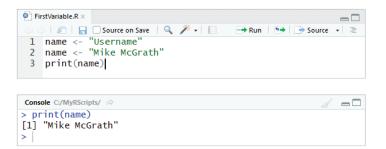
Global Environment ▾		🔍
Values		
name	"Username"	

> *Hot tip*
>
> The **Alt** + **-** keyboard shortcut adds the **<-** assignment operator and a space at each side.

6 Back in the Code Editor, move to the next line and write **name <- ""**

7 Insert your own name between the quotes, then click **Run** to assign a new value to the variable – see the value change instantly on the Environment tab

Global Environment ▾		🔍
Values		
name	"Mike McGrath"	

8 Move to the next line and write **print(name)**, then click **Run** to output the variable value in the Console

```
FirstVariable.R ×
1  name <- "Username"
2  name <- "Mike McGrath"
3  print(name)
```

```
Console C:/MyRScripts/
> print(name)
[1] "Mike McGrath"
>
```

> *Don't forget*
>
> You can click the **Save** button to save the R Script for later use.