

# Writing functions in R

In the R language functions provide the base mechanisms for defining new functions.

## Syntax:

```
function( arglist )  
  expr  
return(value)
```

## Arguments:

arglist       - Empty or one or more name or name=expression terms.  
value         - An expression.

## Description:

The names in an argument list can be back-quoted non-standard names.

If `value` is missing, `NULL` is returned. If it is a single expression, the value of the evaluated expression is returned. (The expression is evaluated as soon as `return` is called, in the evaluation frame of the function and before any `on.exit` expression is evaluated.)

If the end of a function is reached without calling `return`, the value of the last evaluated expression is returned.

## Example:

### *Program #1: Finding square of a number*

```
square <- function(number)  
{  
  answer <- number ^ 2  
  return(answer)  
}
```

`square` is the name of the function.

`function` is the R function that creates functions.

`number` is the parameter (name of the value) passed to the `square` function.

`{` delimits the beginning of the function

`}` delimits the end of the function

`return` is the R function that specifies what the function returns, in this example, the value of `answer`.

## Output:

```
> square(6)  
[1] 36
```