Introduction to R Software

Strings – Display and Formatting
:::
Print and Format Function

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Strings

- **Formatting and Display of Strings**

- **Operations with Strings**

We need formatting and display of strings to obtain the results of specific operations in required format.

Formatting and Display of Strings

Important commands regarding formatting and display are

`print, format, cat,` and `paste.`

`print` function prints its argument.

Usage
`print()`

`print()` is a generic command that is available for every object class.

Formatting and Display of Strings
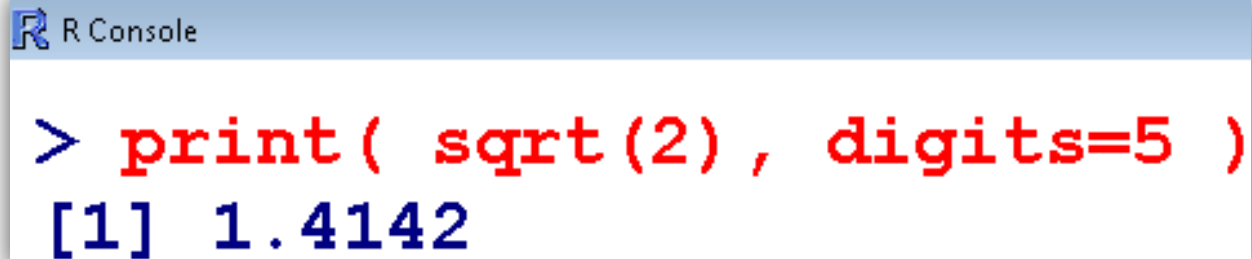
Examples:

```
> print( sqrt(2) )
[1] 1.414214
```

Formatting and Display of Strings
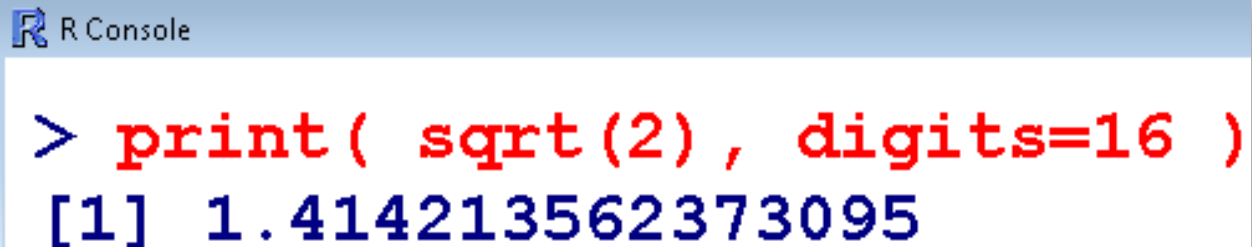
Examples:

```
> print( sqrt(2), digits=5 )
[1] 1.4142
```



```
> print( sqrt(2), digits=16 )
[1] 1.414213562373095
```

Formatting and Display of Strings

Format an R object for pretty printing.

Usage

```
format(x, ...)
```

x is any R object; typically numeric.

Formatting and Display of Strings

Usage

```
format(x, trim = FALSE, digits = NULL, nsmall
= 0L, justify = c("left", "right", "centre",
"none"), width = NULL,   ...)
```

`digits`	shows how many significant digits are to be used
`nsmall`	shows the minimum number of digits to the right of the decimal point
`justify`	provides left-justified (the default), right-justified, or centred.

Formatting and Display of Strings

```
> print( format( 0.5, digits=10, nsmall=15 ) )
[1] "0.500000000000000"
```

Formatting and Display of Strings

Example:

```
> x <- matrix(nrow=3, ncol=2, data=1:6, byrow=T)

> print(x)
     [,1] [,2]
[1,]    1    2
[2,]    3    4
[3,]    5    6
```

Here, a matrix is displayed in the R command window.

One can specify the desired number of digits with the option `digits`.

Formatting and Display of Strings

```
R Console
> x <- matrix(nrow=3, ncol=2, data=1:6, byrow=T)
>
> print(x)
     [,1] [,2]
[1,]    1    2
[2,]    3    4
[3,]    5    6
```

Formatting and Display of Strings

The `print` **function has a significant limitation that it prints only one object at a time.**

Trying to print multiple items gives error message:

```
>  print("The zero occurs at", 2*pi, "radians.")
Error in print.default("The zero occurs at", 2 *
pi, "radians.") :
   invalid 'quote' argument
```

```
R Console
>  print("The zero occurs at", 2*pi, "radians.")
Error in print.default("The zero occurs at", 2 * pi, "radians.") :
   invalid 'quote' argument
```

Formatting and Display of Strings

The only way to print multiple items is to print them one at a time

```
> print("The zero occurs at"); print(2*pi);
print("radians")
[1] "The zero occurs at"
[1] 6.283185
[1] "radians"
```

The `cat` function is an alternative to print that lets you combine multiple items into a continuous output.