

Foundations of R Software

Lecture 47

Data Handling

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Saving and Writing Data Files

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Saving and writing data files:

The **write** function can write the data (usually a matrix) **x** are written to file **file**.

If **x** is a two-dimensional matrix you need to transpose it to get the columns in file the same as those in the internal representation.

Saving and writing data files:

```
write(x, file = "data", ncolumns ,  
      append = FALSE, sep = " ")
```

Arguments

x the data to be written out, usually an atomic vector.

file a connection, or a character string naming the file to write to. If **" "**, print to the standard output connection.

Saving and writing data files:

Arguments

`ncolumns`

the number of columns to write the data in.

`append`

if **TRUE** the data `x` are appended to the connection.

`sep`

a string used to separate columns. Using `sep = "\t"` gives tab delimited output; default is " ".

Saving and writing data files:

```
> x=c(1:100)
```

```
> x
```

```
[1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18
[19] 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
[37] 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
[55] 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
[73] 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
[91] 91 92 93 94 95 96 97 98 99 100
```

```
> write(x, file="shalabh")
```

Saving and writing data files:

```
R Console
> x=c(1:100)
> x
 [1] 1 2 3 4 5 6 7
 [8] 8 9 10 11 12 13 14
[15] 15 16 17 18 19 20 21
[22] 22 23 24 25 26 27 28
[29] 29 30 31 32 33 34 35
[36] 36 37 38 39 40 41 42
[43] 43 44 45 46 47 48 49
[50] 50 51 52 53 54 55 56
[57] 57 58 59 60 61 62 63
[64] 64 65 66 67 68 69 70
[71] 71 72 73 74 75 76 77
[78] 78 79 80 81 82 83 84
[85] 85 86 87 88 89 90 91
[92] 92 93 94 95 96 97 98
[99] 99 100
> write(x, file="shalabh")
```

```
shalabh - Notepad
File Edit Format View Help
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
26 27 28 29 30
31 32 33 34 35
36 37 38 39 40
41 42 43 44 45
46 47 48 49 50
51 52 53 54 55
56 57 58 59 60
61 62 63 64 65
66 67 68 69 70
71 72 73 74 75
76 77 78 79 80
81 82 83 84 85
86 87 88 89 90
91 92 93 94 95
96 97 98 99 100
```

Saving and writing tabular and CSV data files:

The `write.csv` function can write tabular data to an ASCII file in CSV format. Each row of data creates one line in the file, with data items separated by commas (,):

```
write.csv(x, file = "", append = FALSE)
```

```
write.csv(x, file = "", append = FALSE, quote =  
TRUE, sep = " ", eol = "\n", na = "NA", dec =  
".", row.names = TRUE, col.names = TRUE,  
qmethod = c("escape", "double"), fileEncoding =  
"" )
```

Saving and writing tabular and CSV data files:

The `write.table` prints its required argument `x`.

```
write.table(x, file = "", append = FALSE)
```

```
write.table(x, file = "", append = FALSE, quote  
= TRUE, sep = " ", eol = "\n", na = "NA", dec =  
".", row.names = TRUE, col.names = TRUE,  
qmethod = c("escape", "double"), fileEncoding =  
"" )
```

Saving and writing tabular and CSV data files:

Discussion

x the object to be written, preferably a matrix or data frame. If not, it is attempted to coerce **x** to a data frame.

file either a character string naming a file or a connection open for writing. "" indicates output to the console.

append logical. Only relevant if file is a character string. If **TRUE**, the output is appended to the file. If **FALSE**, any existing file of the name is destroyed.

Saving and writing tabular and CSV data files:

quote a logical value (**TRUE** or **FALSE**) or a numeric vector. If **TRUE**, any character or factor columns will be surrounded by double quotes. If a numeric vector, its elements are taken as the indices of columns to quote. If **FALSE**, nothing is quoted.

sep the field separator string. Values within each row of **x** are separated by this string.

eol the character(s) to print at the end of each line (row).

na the string to use for missing values in the data.