Tables/CSV command in R

MA653: Computational Financial Modelling

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Introduction

- R can read and write into various file formats like csv, excel, xml etc.
  - The file should be present in current working directory.
  - **getwd():** to check current working directory
  - **getwd():** to change current working directory
- The csv file is a text file in which the values in the columns are separated by a comma.

Example:

id,name,age
1,rahul,21
2,vijay,20

Reading a CSV File

- read.csv() function is used to read a CSV file in current working directory

```
data<-read.csv("table.csv", header=TRUE)
print(data)
```

- By default the read.csv() function gives the output as a data frame.

```
> class(data)
[1] "data.frame"
```

Getting data from the imported CSV File

- **head(data)** will print first 6 rows of table
- **tail(data)** will print last 6 rows of table
- to get custom rows and columns

```
data[c(1,2),c(2,3,4)]
# or
data[c(1,2),2:4]
# first vector contains column numbers
# second vector contains row numbers
```

- to get number of rows and columns

```
> print(ncol(data))
[1] 5
> print(nrow(data))
[1] 10
```

Analyzing the CSV File

- to get maximum value in column age

```
maxAge <- max(data$age)
print(maxAge)
```

- to get the details of the person with max age

```
retval <- subset(data, age == max(age))
print(retval)
```

- to get the details of the all people named rahul

```
retval <- subset(data, name == "rahul")
print(retval)
```

- similar syntax for other operators like <,>,min etc

Writing into a CSV File

- R can write into a CSV file from exising dataframe object

```
# get the data in a dataframe
retval <- subset(data, name == "rahul")
print(retval)

# Write filtered data into a new file.
write.csv(retval,"output.csv",
row.names = FALSE)
```

- **row.names = FALSE** asserts to exclude row number of original table from new table