Première partie

R functions

Time Series

Time Series Data (Introductory Time Series with R)

Time Series Data			
Function	**Description**	**Possible Values**	**Example**

`ts`	Produces a time series object.		`series.obj <- ts(data = sample(x = seq(from = 98, to = 102), size = 10, frequency = 4, start = c(1956, 2))`
			`series.obj`
			
			`##  Qtr1 Qtr2 Qtr3 Qtr4`
			`## 1956  98  98  99`
			`## 1957 100 100  98 100`
			`## 1958  99 102 101`

`aggregate`	Creates an aggregated series.		`aggregate(x = series.obj, nfrequency = 2, # aggregate by half year FUN = mean) # calculate the mean`
			
			`## Time Series:`
			`## Start = 1956.25`
			`## End = 1958.25`
			`## Frequency = 2`
			`## [1] 98.0 99.5 99.0 99.5 101.5`

`ts.plot`	Produces a time series plot for one (or more) series.		`ts.plot(series.obj)`

Function	Description	Possible Values	Example
`window`	Extracts a subset of a time series.	Same arguments as the other time series functions.	`window(x = series.obj, start = c(1957), end = c(1957, 4))`
`time`	Extracts the time from a time series object.		`time(series.obj)`
`ts.intersect`	Creates the intersection of one (or more) time series.	Chiffre.	`series.obj2 <- ts(data = sample(x = seq(from = 98, to = 102), size = 10, frequency = 4, start = c(1957, 2))` `ts.intersect(series.obj, series.obj2)`
`cycle`	Returns the season for each value in a time series.	Booléen.	`importance = TRUE`
`decompose`	Decompose a time series into the components.	Chiffre.	`nodesize = 5`
`stl`	Decomposes a time series using loess smoothing.	Chiffre.	`nodesize = 5`

```
##     Qtr1 Qtr2 Qtr3 Qtr4
## 1957  100  100   98  100
```

```
##       Qtr1   Qtr2   Qtr3   Qtr4
## 1956       1956.25 1956.50 1956.75
## 1957 1957.00 1957.25 1957.50 1957.75
## 1958 1958.00 1958.25 1958.50
```

```
##       series.obj series.obj2
## 1957 Q2      100       101
## 1957 Q3       98        99
## 1957 Q4      100        98
## 1958 Q1       99       101
## 1958 Q2      102       101
## 1958 Q3      101       100
```