

# Statistics for Decision Making: Broad Introduction

A Naive Approach for Forecasting Time Series

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# Date and Time

There are two commands to use date

1. `as.Date(___,format = "___")`: read the data (already formatted in a certain way)
2. `format(___, format = "___")`: format the data using your own way

If your date is the standard way as “2018-09-21”, then you do not have to specify the format.

## How do you specify the format?

Symbol	Meaning	Example
%d	day as a number (0-31)	01-31
%a	abbreviated weekday	Mon
%A	unabbreviated weekday	Monday
%m	month (00-12)	00-12
%b	abbreviated month	Jan
%B	unabbreviated month	January
%y	2-digit year	07
%Y	4-digit year	2007

## How to use these symbols?

### Example

```
# convert date info in format 'mm/dd/yyyy'  
strDates <- c("01/05/1965", "08/16/1975")  
dates <- as.Date(strDates, "%m/%d/%Y")  
dates
```

```
## [1] "1965-01-05" "1975-08-16"
```

strDates is not in the standard way, so you have to tell R what its format is.

Symbol	Meaning	Example
%d	day as a number (0-31)	01-31
%m	month (00-12)	00-12
%Y	4-digit year	2007

```
date<- "May 23, '96"  
as.Date(date, "%B %d, '%y")
```

```
## [1] "1996-05-23"
```

Notice the space and the tick before year.

## Format the standard date with another format

```
# print today's date  
today <- Sys.Date()  
format(today, format="%B %d %Y")
```

```
## [1] "September 10 2018"
```

# Time

```
# Definition of character strings representing times  
str1 <- "May 23, '96 hours:23 minutes:01 seconds:45"  
str1
```

```
## [1] "May 23, '96 hours:23 minutes:01 seconds:45"
```

```
# Convert the strings to POSIXct objects: time1  
time1 <- as.POSIXct(str1, format = "%B %d, '%y hours:%H minutes:%M seconds:%S")  
time1
```

```
## [1] "1996-05-23 23:01:45 CDT"
```