

Lab 09: Factors, Dates and Times

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```
library(tidyverse)
library(forcats)
library(lubridate)
yvr <- read_csv("weatherYVR.csv",
  col_types = cols(
    `Date/Time` = col_character()
  )
)
yvr
```

A tibble: 365 x 20

	`Date/Time` <chr>	Year <dbl>	Month <dbl>	Day <dbl>	`Data Quality` <lgl>	`Max Temp` <dbl>	`Max Temp Flag` <lgl>
1	2003-01-01	2003	1	1	NA	6.8	NA
2	2003-01-02	2003	1	2	NA	11.7	NA
3	2003-01-03	2003	1	3	NA	11.3	NA
4	2003-01-04	2003	1	4	NA	13	NA
5	2003-01-05	2003	1	5	NA	10.8	NA
6	2003-01-06	2003	1	6	NA	9.9	NA
7	2003-01-07	2003	1	7	NA	10.9	NA
8	2003-01-08	2003	1	8	NA	7.7	NA
9	2003-01-09	2003	1	9	NA	7.7	NA
10	2003-01-10	2003	1	10	NA	5.8	NA

i 355 more rows

i 13 more variables: `Min Temp` <dbl>, `Min Temp Flag` <lgl>,
`Mean Temp` <dbl>, `Mean Temp Flag` <lgl>, `Heat Deg Days` <dbl>,
`Heat Deg Days Flag` <lgl>, `Cool Deg Days` <dbl>,
`Cool Deg Days Flag` <lgl>, `Total Rain (mm)` <dbl>,
`Total Rain Flag` <lgl>, `Total Snow (cm)` <dbl>, `Total Snow Flag` <lgl>,
`Total Precip (mm)` <dbl>

Run the above code chunk to read in **daily** weather data from YVR in 2003. Coercing **Date/Time** to a character vector is done because different versions of R and operating systems may read it in as a date-time object instead, negating Exercise 1 below.

1. Coerce the **Date/Time** variable to a date object and rename it **Date**.
2. Make a time series plot (with lines) of the daily maximum temperature by day.
3. Change the **Month** variable from numeric to a factor. (Hint: The **month()** function with the **label=TRUE** argument will extract the months from a date-time object.)
4. Plot the average maximum temperature *versus* month. Then, redo this plot with months ordered by average maximum.