Dates and Times in R

Base R

First let's look at dates and times in base R. First days. Note that you can do arithmetic on dates.

```
hire_date <- as.Date("2016-09-01")
days_employed <- Sys.Date() - hire_date
print(days_employed)
```

```
## Time difference of 630 days
```

Now let's look at time. You can do arithmetic on time as well.

```
birth_date <- as.Date("1989-04-18")
difftime(Sys.Date(), birth_date, units="secs")
```

```
## Time difference of 918259200 secs
```

Lubridate

The lubridate package was created to simplify date and time processing.

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
```

```
## The following object is masked from 'package:base':
##
##     date
```

```
today()
```

```
## [1] "2018-05-24"
```

```
now()
```

```
## [1] "2018-05-24 08:43:54 CDT"
```

The airquality data has month and year columns. The documentation states that the year is 1973. We will put these together to create a date field.

```
df <- airquality[]
df$date <- ymd(paste("1973",airquality$Month,airquality$Day))
print(range(df$date))
```

```
## [1] "1973-05-01" "1973-09-30"
```

```
df$date[nrow(df)] - df$date[1]  # time difference
```

```
## Time difference of 152 days
```