

Untitled

2023-09-20

```
library(moderndiver)
library(ggplot2)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.3      v readr      2.1.4
## v forcats    1.0.0      v stringr    1.5.0
## v lubridate  1.9.2      v tibble     3.2.1
## v purrr      1.0.2      v tidyr      1.3.0
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
data("early_january_weather")
early_january_weather
```

```
## # A tibble: 358 x 15
##   origin year month   day hour temp dewp humid wind_dir wind_speed
##   <chr>  <int> <int> <int> <int> <dbl> <dbl> <dbl>    <dbl>    <dbl>
## 1 EWR    2013     1     1     1  39.0  26.1  59.4      270     10.4
## 2 EWR    2013     1     1     2  39.0  27.0  61.6      250      8.06
## 3 EWR    2013     1     1     3  39.0  28.0  64.4      240     11.5
## 4 EWR    2013     1     1     4  39.9  28.0  62.2      250     12.7
## 5 EWR    2013     1     1     5  39.0  28.0  64.4      260     12.7
## 6 EWR    2013     1     1     6  37.9  28.0  67.2      240     11.5
## 7 EWR    2013     1     1     7  39.0  28.0  64.4      240     15.0
## 8 EWR    2013     1     1     8  39.9  28.0  62.2      250     10.4
## 9 EWR    2013     1     1     9  39.9  28.0  62.2      260     15.0
## 10 EWR   2013     1     1    10  41    28.0  59.6      260     13.8
## # i 348 more rows
## # i 5 more variables: wind_gust <dbl>, precip <dbl>, pressure <dbl>,
## #   visib <dbl>, time_hour <dtm>
```

```
str(early_january_weather)
```

```
## tibble [358 x 15] (S3: tbl_df/tbl/data.frame)
## $ origin      : chr [1:358] "EWR" "EWR" "EWR" "EWR" ...
## $ year        : int [1:358] 2013 2013 2013 2013 2013 2013 2013 2013 2013 2013 2013 2013 ...
## $ month       : int [1:358] 1 1 1 1 1 1 1 1 1 1 1 ...
## $ day         : int [1:358] 1 1 1 1 1 1 1 1 1 1 1 ...
## $ hour        : int [1:358] 1 2 3 4 5 6 7 8 9 10 ...
## $ temp        : num [1:358] 39 39 39 39.9 39 ...
## $ dewp        : num [1:358] 26.1 27 28 28 28 ...
## $ humid       : num [1:358] 59.4 61.6 64.4 62.2 64.4 ...
## $ wind_dir    : num [1:358] 270 250 240 250 260 240 240 250 260 260 ...
## $ wind_speed  : num [1:358] 10.36 8.06 11.51 12.66 12.66 ...
```

```
## $ wind_gust : num [1:358] NA NA NA NA NA NA NA NA NA NA ...
## $ precip    : num [1:358] 0 0 0 0 0 0 0 0 0 0 ...
## $ pressure   : num [1:358] 1012 1012 1012 1012 1012 ...
## $ visib      : num [1:358] 10 10 10 10 10 10 10 10 10 10 ...
## $ time_hour  : POSIXct[1:358], format: "2013-01-01 01:00:00" "2013-01-01 02:00:00" ...
```

```
nrow(early_january_weather)
```

```
## [1] 358
```

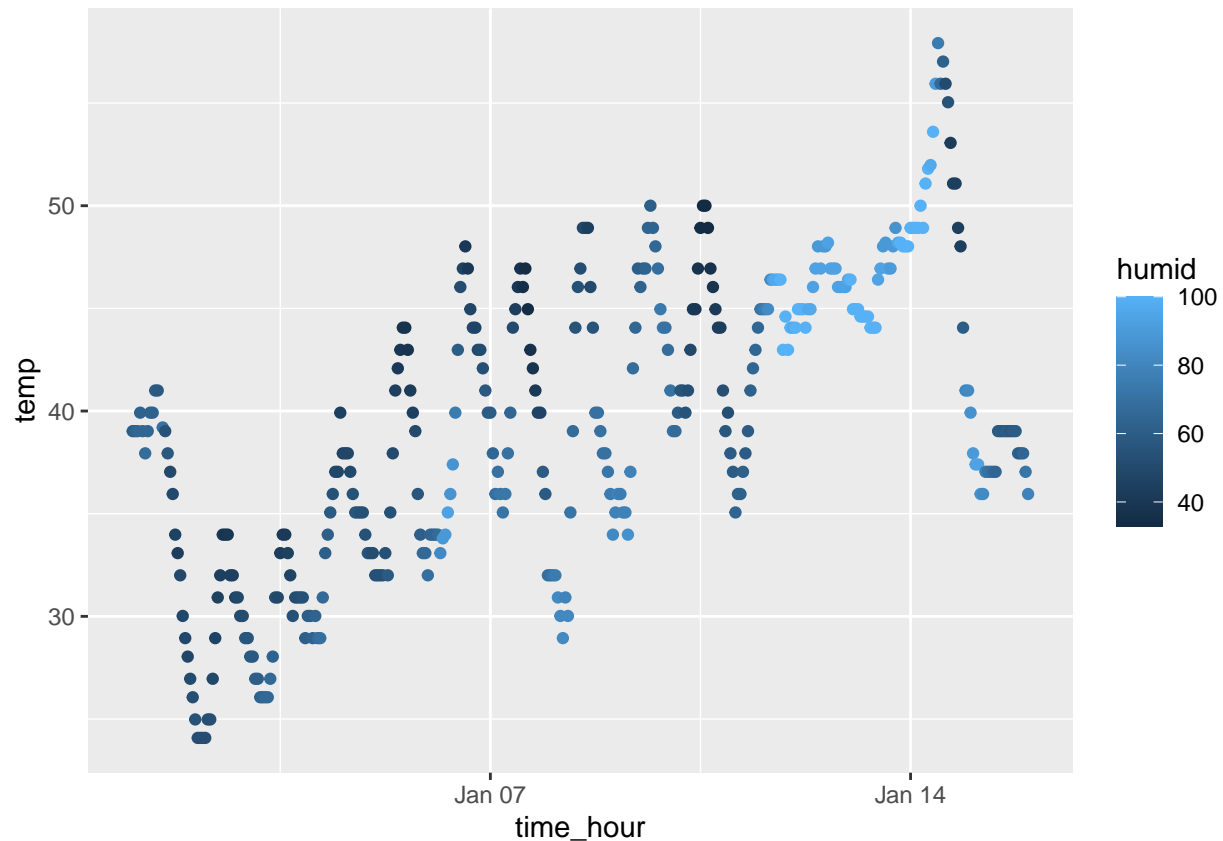
```
ncol(early_january_weather)
```

```
## [1] 15
```

```
mean(early_january_weather$temp)
```

```
## [1] 39.58212
```

```
ggplot(early_january_weather, aes(x = time_hour, y = temp, color = humid)) + geom_point()
```



```
ggsave("scatter_plot.pdf", height = 4, width = 6)
```

#Discription: The dataset contain 358 rows, 15 columns, and with the mean temperature of 39.58. Within

```
library(tidyverse)
```

```
a = rnorm(10)
```

```
df <- data.frame(
```

```
  a,
```

```
  logical_vector = a > 0,
```

```
  char_vector     = c("a", "b", "c", "d", "e", "f", "g", "h", "i", "j"),
```

```

    factor_vector = factor(rep(1:3, length.out = 10))
  )
  print(df)

##           a logical_vector char_vector factor_vector
## 1  1.5532996           TRUE           a             1
## 2  1.1226953           TRUE           b             2
## 3 -0.7770855          FALSE           c             3
## 4  0.3259490           TRUE           d             1
## 5  0.6544474           TRUE           e             2
## 6  0.7986893           TRUE           f             3
## 7  0.1315485           TRUE           g             1
## 8 -0.2030183          FALSE           h             2
## 9  0.3683292           TRUE           i             3
## 10 0.7222496           TRUE           j             1

mean_numeric <- mean(pull(df, a))
mean_numeric

## [1] 0.4697104

mean_logical <- mean(pull(df, logical_vector))
mean_logical

## [1] 0.8

```