

Homework 5

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##Input dataset

```
library(readr)
homicide_data <- read_csv("~/Desktop/Homework5/data/homicide-data.csv")
```

```
## Rows: 52179 Columns: 12
## -- Column specification -----
## Delimiter: ","
## chr (9): uid, victim_last, victim_first, victim_race, victim_age, victim_sex...
## dbl (3): reported_date, lat, lon
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
#new column combining state and city; filter to baltimore
baltimore <- homicide_data %>%
  mutate(city_name = str_c(city, state, sep = ",")) %>%
  filter(city_name == "Baltimore,MD")
```

##Baltimore data

```
baltimore1 <- baltimore %>%
  mutate(Date = ymd(reported_date))
```

##Making year-month to group by later

```
per_month <- baltimore1 %>%
  group_by(year(Date), month(Date)) %>%
  mutate(New_Date = str_c(`year(Date)`, '-', `month(Date)`))
```

##Defining summer and winter months

```
per_month1 <- per_month %>%
  mutate(Weather = `month(Date)` %in% 5:10)

per_month1 <- per_month1 %>%
  mutate(Weather = factor(Weather, levels = c(TRUE, FALSE),
    labels = c("Summer", "Winter")))
```

```
per_month2 <- per_month1 %>%
  select(Date, Weather, New_Date) %>%
  group_by(New_Date) %>%
  mutate(Total = n()) %>%
  distinct(New_Date, .keep_all = TRUE)
```

```
## Adding missing grouping variables: `year(Date)`, `month(Date)`
```

```

vline <- "2015-04-12"

##Build graph
per_month2 %>%
  ggplot(aes(x = Date, y = Total)) +
    geom_bar(aes(fill = Weather), stat = "identity", width = 35) +
    scale_fill_manual(values = c("grey", "lightblue")) +
    geom_smooth(se = FALSE, span = 0.1) +
    geom_vline(aes(xintercept = as.numeric(as.Date(vline))),
               linetype = 3, col = "red", size = 1) +
    annotate("text", x = per_month$Date[1700], y = 41 - 0.1,
             label = "Arrest of \n Freddie Gray", color = "darkgrey") +
    theme_dark() +
    theme(legend.position = "bottom")

```

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

```
## Warning: position_stack requires non-overlapping x intervals
```

