HW5

Collin Brehmer

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```
library(readr)
library(dplyr)
library(tidyr)
library(lubridate)
library(stringr)
library(ggplot2)
```

Read in raw data

```
homicides_raw <- read_csv("../data/homicide-data.csv")
```

Clean data

```
homicides <- homicides_raw %>%
  unite(city_name, city, state, sep= ", ") %>%
  filter(city_name == "Baltimore, MD" & reported_date != is.na(reported_date)) %>%
  mutate(year = year(ymd(reported_date)),
         month = month(ymd(reported_date)),
         year_month = paste0(year, "-", month),
         year_month = ymd(year_month, truncated = 1)) %>%
  group_by(year_month) %>%
  count()

winter <- list(1,2,3,4,11,12)
summer <- list(5,6,7,8,9,10)

homicides <- homicides %>%
  mutate(season = case_when(month(year_month) %in% winter ~ "Winter",
                            month(year_month) %in% summer ~"Summer"))
```

Recreate plot

```
homicides %>%
  ggplot(aes(y = n, x = year_month)) +
  geom_bar(aes(fill = season), stat = "identity") +
  geom_smooth(se = FALSE, method = "loess", span = .15) +
  scale_fill_manual(values = c("#D3D3D3","#ADD8E6")) +
  theme_dark()+
```

```
theme(legend.title = element_blank(),
      legend.position = "bottom",
      text = element_text(size = 7)) +
labs(y = "Monthly homicides", x = "Date")+
ggtitle("Homicides in Baltimore, MD")+
scale_x_date() +
geom_vline(xintercept = as.numeric(as.Date("2015-04-01")), color = "red",
           linetype = "dashed", size = 1) +
annotate("text", y = 40, x = as.Date("2015-02-01"), label = "Arrest of\nFreddie Gray",
         hjust = 1, color = "white", size = 2.5)
```