Homework5

Haiyang Hu

2022-11-30

```
library(dplyr)
library(ggplot2)
library(ggthemes)
library(tibble)
library(readr)
library(tidyr)
library(stringr)
library(forcats)
library(broom)
library(purrr)
library(sf)
library(tigris)
library(viridis)
```

Q1

```
data_url <- paste0("https://raw.githubusercontent.com/washingtonpost/",
                   "data-homicides/master/homicide-data.csv")
homicides <- read.csv(data_url)
homicides <- homicides%>%
  unite(city_name,c("city","state"),sep = ",")

data <- homicides%>%
  filter(city_name == "Denver,CO")%>%
  mutate(victim_race = as_factor(x = victim_race),
         victim_race = fct_lump(victim_race, n=3))%>%
  mutate(disposition = as_factor(x = disposition),
         disposition = fct_recode(.f = disposition,
                                  Solved = "Closed by arrest",
                                  Unsolved = "Closed without arrest",
                                  Unsolved = "Open/No arrest"))

data_test <- st_as_sf(data, coords = c("lon", "lat"))%>%
  st_set_crs(4269)

co_denver <- counties(state = "CO", cb = TRUE, class = "sf")%>%
  filter(NAME == "Denver")
```

```
##   |                                                                              |
```

```
ggplot()+
  geom_sf(data = co_denver,color = "lightgray")+
```

```
geom_sf(data = data_test, aes(color = victim_race, shape = disposition))+
labs(colour = "Top three", shape = "Case solved or not")+
theme_dark()+
facet_wrap(~disposition, ncol = 2)+
theme(axis.line = element_blank(),
      axis.text = element_blank(),
      axis.ticks = element_blank())+
ggtitle("Locations of the homicides in Denver")+
theme(plot.title = element_text(hjust = 0.5))
```