Homework #5, Choice #1

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# Homicide Data

Read in the data.

homicide\_raw <- read\_csv("../data/homicide-data.csv")

## Parsed with column specification:  
## cols(  
## uid = col\_character(),  
## reported\_date = col\_double(),  
## victim\_last = col\_character(),  
## victim\_first = col\_character(),  
## victim\_race = col\_character(),  
## victim\_age = col\_character(),  
## victim\_sex = col\_character(),  
## city = col\_character(),  
## state = col\_character(),  
## lat = col\_double(),  
## lon = col\_double(),  
## disposition = col\_character()  
## )

## Clean Data

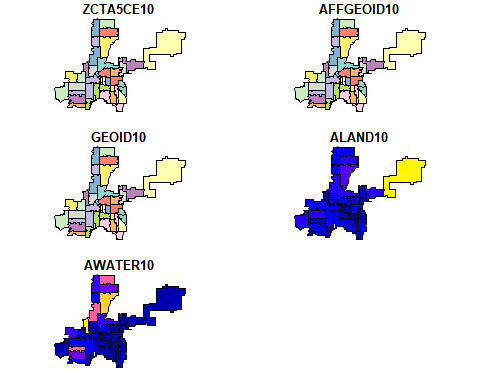
Filter the data for the city of Denver and select the categories that will be used.

denver <- homicide\_raw %>%   
 filter(city == "Denver") %>%   
 select(lat, lon, disposition, victim\_race)

## Map Boundaries

In this section, I used the zip codes for the Denver area to create boundaries for my base map.

denver\_zips <- zctas(cb = TRUE, starts\_with = c("802"), class = "sf")  
plot(denver\_zips)



## Number of Homicides by Victim Race

Here, I determined the three race groups (balck, white, hispanic) with the highest number of victim homicides.

race <- denver %>%   
 group\_by(victim\_race) %>%   
 mutate(count=n()) %>%   
 arrange(desc(count)) %>%   
 ungroup()  
  
denver2 <- denver %>%  
 filter(victim\_race == c("Black", "White", "Hispanic")) %>%   
 mutate(disposition = factor(disposition, levels = c("Closed without arrest", "Closed by arrest", "Open/No arrest"),   
 labels = c("solved", "solved", "unsolved")))

## Create the Map

I created a map to show where the homicides in Denver have occured for the three race groups with the highest number of victims. Then, I faceted by the disposition of the case in order to create two stacked maps.

denver\_crs <- denver2 %>%   
 filter(!is.na(lat)) %>%   
 st\_as\_sf(coords = c("lon", "lat")) %>%   
 st\_set\_crs(4269)  
  
map <- ggplot() +   
 geom\_sf(data = denver\_zips, color = "lightgray") +   
 geom\_sf(data = denver\_crs, aes(color = factor(victim\_race)), show.legend = 'point') +  
 ggtitle("Homicides in Denver, CO") +  
 scale\_color\_manual(values = c("Black" = "black", "Hispanic" = "red", "White" = "yellow"),  
 labels = c("Black", "Hispanic", "White"),  
 name = "Victim Race") +  
 labs(x = "Longitude", y = "Latitude") +  
 facet\_wrap(~ disposition, ncol = 1) +  
 theme(plot.title = element\_text(hjust = 0.5), axis.text.x = element\_text(angle = 90, hjust = 1))  
  
map

