Homework 3, R Programming

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# Global options

## Create of figure

## Choice 1 - creation of map showing homicides of cities in

## Read in libraries

library(readr)  
library(sf)

## Linking to GEOS 3.7.2, GDAL 2.4.2, PROJ 5.2.0

library(tigris)

## To enable   
## caching of data, set `options(tigris\_use\_cache = TRUE)` in your R script or .Rprofile.

##   
## Attaching package: 'tigris'

## The following object is masked from 'package:graphics':  
##   
## plot

options(tigris\_class = "sf")  
options(tigris\_use\_cache = TRUE)  
library(forcats)  
library(dplyr)

##   
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':  
##   
## filter, lag

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

library(tidyr)  
library(ggplot2)

## Load in the data and filter to Denver, CO

homicides <- 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()  
## )

homicides <- homicides %>%   
 filter(city == "Denver")

## Load in co data and filter to denver

# get tx counties  
co\_counties <- counties(state = "CO", cb = TRUE, class = "sf")  
  
# filter to denver county  
denver\_county <- co\_counties %>%   
 filter(NAME == "Denver")  
  
# tracts  
denver\_tracts <- tracts(state = "CO", county = "Denver", cb = TRUE, class = "sf")

## Convert homicides to sf object

# filter out lat/lon NAs  
homicides <- homicides %>%   
 filter(lat != "NA") %>%   
 filter(lon != "NA")  
   
# change to an sf object  
homicides <- sf::st\_as\_sf(homicides, coords = c("lon", "lat"), crs = 4269)

## Figure generation

homicides <- homicides %>%   
 mutate(victim\_race = fct\_infreq(victim\_race))  
  
homicides <- homicides %>%   
 dplyr::mutate(victim\_race = forcats::fct\_lump(victim\_race, n = 3))  
  
# plot  
ggplot() +  
 geom\_sf(data = denver\_county) +  
 geom\_sf(data = denver\_tracts) +  
 geom\_sf(data = homicides, aes(color = victim\_race)) +  
 facet\_wrap(~disposition) +  
 theme\_classic() +  
 ggtitle("Race of homicides in Denver County sorted by disposition") +  
 labs(color = "Victim Race")

