

hw_5_R

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```
library(tidyverse)
library(stringr)
library(purrr)
library(broom)
library(scales)
library(ggthemes)
library(sf)
library(tigris)
library(lubridate)
library(flexdashboard)
library(shiny)
library(jsonlite)
library(mapttools)
library(leaflet)
library(plotly)
library(DT)
library(viridis)
library(rgdal)

homicides <- read_csv("https://raw.githubusercontent.com/washingtonpost/data-homicides/master/homicide-data-csv")

homicides <- homicides %>%
  unite(city_name, city, state, sep = ", ")

homicides %>%
  group_by(city_name) %>%
  summarize(total = n()) %>%
  arrange(desc(total)) %>%
  slice(-51)

## # A tibble: 50 x 2
##   city_name      total
##   <chr>         <int>
## 1 Chicago, IL    5535
## 2 Philadelphia, PA 3037
## 3 Houston, TX    2942
## 4 Baltimore, MD   2827
## 5 Detroit, MI     2519
## 6 Los Angeles, CA 2257
## 7 St. Louis, MO   1677
## 8 Dallas, TX      1567
## 9 Memphis, TN     1514
## 10 New Orleans, LA 1434
```

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## # ... with 40 more rows
dc_homicides <- homicides %>%
  filter(city_name == "Washington, DC") %>%
  mutate(reported_date = ymd(reported_date))

dc_homicides

## # A tibble: 1,345 x 11
##   uid   reported~1 victi~2 victi~3 victi~4 victi~5 victi~6 city_~7 lat lon
##   <chr> <date>      <chr>  <chr>  <chr>  <chr>  <chr>  <chr>  <dbl> <dbl>
## 1 Was-0~ 2015-01-03 ROSS    RAHJI   Black  35     Male  Washin~ 38.9 -77.0
## 2 Was-0~ 2015-01-08 STEWART MARVIN Black  49     Male  Washin~ 38.9 -77.0
## 3 Was-0~ 2015-01-10 CARIAS  MARTIN~ Hispan~ 21     Male  Washin~ 38.9 -77.0
## 4 Was-0~ 2015-01-11 NEWMAN ANDREW  Black  17     Male  Washin~ 38.9 -77.0
## 5 Was-0~ 2015-01-11 ANDERS~ JAMES   Black  27     Male  Washin~ 38.9 -77.0
## 6 Was-0~ 2015-01-14 JONES   PHILLIP Black  17     Male  Washin~ 38.8 -77.0
## 7 Was-0~ 2015-01-19 OWENS   KEVIN   Black  22     Male  Washin~ 38.8 -77.0
## 8 Was-0~ 2015-01-25 WILLIA~ GERALD  Black  45     Male  Washin~ 38.9 -77.0
## 9 Was-0~ 2015-02-03 HOWARD  NAVONT~ Black  19     Male  Washin~ 38.9 -77.0
## 10 Was-0~ 2015-02-04 JONES    TRACEY  Black  46     Male  Washin~ 38.9 -77.0
## # ... with 1,335 more rows, 1 more variable: disposition <chr>, and abbreviated
## #   variable names 1: reported_date, 2: victim_last, 3: victim_first,
## #   4: victim_race, 5: victim_age, 6: victim_sex, 7: city_name
dc_districts <- state_legislative_districts(state = "DC", cb = TRUE, class = "sf")

## |

unique(dc_homicides$victim_race)

## [1] "Black" "Hispanic" "White" "Asian" "Other"

dc_homicides %>%
  group_by(victim_race) %>%
  summarise(total = n())

## # A tibble: 5 x 2
##   victim_race total
##   <chr>      <int>
## 1 Asian      14
## 2 Black     1217
## 3 Hispanic   65
## 4 Other       7
## 5 White     42

dc_race <- dc_homicides %>%
  mutate(unsolved = disposition != "Closed by arrest") %>%
  group_by(victim_race) %>%
  arrange(desc(victim_race)) %>%
  mutate(victim_race = fct_lump(victim_race)) %>%
  filter(!victim_race == c("Other", "Asian")) %>%
  ungroup() %>%
  slice(-c(43:45),
        -c(1328:1334))

dc_race$unsolved <- as.numeric(dc_race$unsolved)
```

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dc_race %>%
  group_by(victim_race) %>%
  summarise(total = n())

## # A tibble: 3 x 2
##   victim_race total
##   <fct>         <int>
## 1 Black         1217
## 2 Hispanic        65
## 3 White          42

EPSG <- make_EPSG()

dc_race_crs <- st_as_sf(dc_race, coords = c("lon", "lat")) %>%
  st_set_crs(2248)

dc_districts_crs <- st_as_sf(dc_districts, coords = c("lon", "lat")) %>%
  st_set_crs(2248)

unsolved_names <- c(`0` = "Solved", `1` = "Unsolved")

cols <- c("")

ggplot() +
  geom_sf(data = dc_districts_crs, fill = "white", color = "black",
    linetype = 2) +
  geom_sf(data = dc_race_crs, aes(color = victim_race),
    size = 0.8, alpha = 0.7) +
  facet_wrap(~ unsolved, labeller = labeller(.cols = unsolved_names)) +
  ggtitle("Locations of Homicides in DC by Race and Solved Status") +
  guides(color = guide_legend(title = "Victim Race")) +
  scale_color_manual(values = c("Black" = "purple", "Hispanic" = "deeppink2",
    "White" = "dodgerblue4")) +
  theme_map()

```

Locations of Homicides in DC by Race and Solved Status

