

ERHS 535 Homework #4

Kyle S. Root

October 30, 2018

Unsolved Homicides in Baltimore

```
library(tidyverse)
```

```
## -- Attaching packages -----
## v ggplot2 3.1.0      v purrr  0.2.5
## v tibble  1.4.2      v dplyr  0.7.7
## v tidyr   0.8.2      v stringr 1.3.1
## v readr   1.1.1      v forcats 0.3.0

## -- Conflicts -----
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'

## The following object is masked from 'package:base':
##
##     date
```

```
homicides <- read_csv("../data_raw/data-homicides-master/homicide-data.csv")
```

```
## Parsed with column specification:
## cols(
##   uid = col_character(),
##   reported_date = col_integer(),
##   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()
## )
```

```
head(homicides)
```

```
## # A tibble: 6 x 12
##   uid   reported_date victim_last victim_first victim_race victim_age
##   <chr>         <int> <chr>         <chr>         <chr>         <chr>
## 1 Alb~         20100504 GARCIA        JUAN           Hispanic      78
## 2 Alb~         20100216 MONTOYA       CAMERON        Hispanic      17
## 3 Alb~         20100601 SATTERFIELD VIVIANA        White         15
## 4 Alb~         20100101 MENDIOLA      CARLOS         Hispanic      32
```

```
## 5 Alb~ 20100102 MULA VIVIAN White 72
## 6 Alb~ 20100126 BOOK GERALDINE White 91
## # ... with 6 more variables: victim_sex <chr>, city <chr>, state <chr>,
## # lat <dbl>, lon <dbl>, disposition <chr>
```

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

```
homicides$city_name
```

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##      [1] "Albuquerque, NM" "Albuquerque, NM" "Albuquerque, NM"
##      [4] "Albuquerque, NM" "Albuquerque, NM" "Albuquerque, NM"
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## [52177] "Washington, DC"      "Washington, DC"      "Washington, DC"
```

```
unique(homicides$disposition)
```

```
## [1] "Closed without arrest" "Closed by arrest"      "Open/No arrest"
```

```
unsolved <- homicides %>%
  mutate(unsolved = disposition == "Closed without arrest" | disposition == "Open/No arrest") %>%
  group_by(city_name) %>%
  summarize(n_homicides = n(),
            n_unsolved = sum(unsolved))

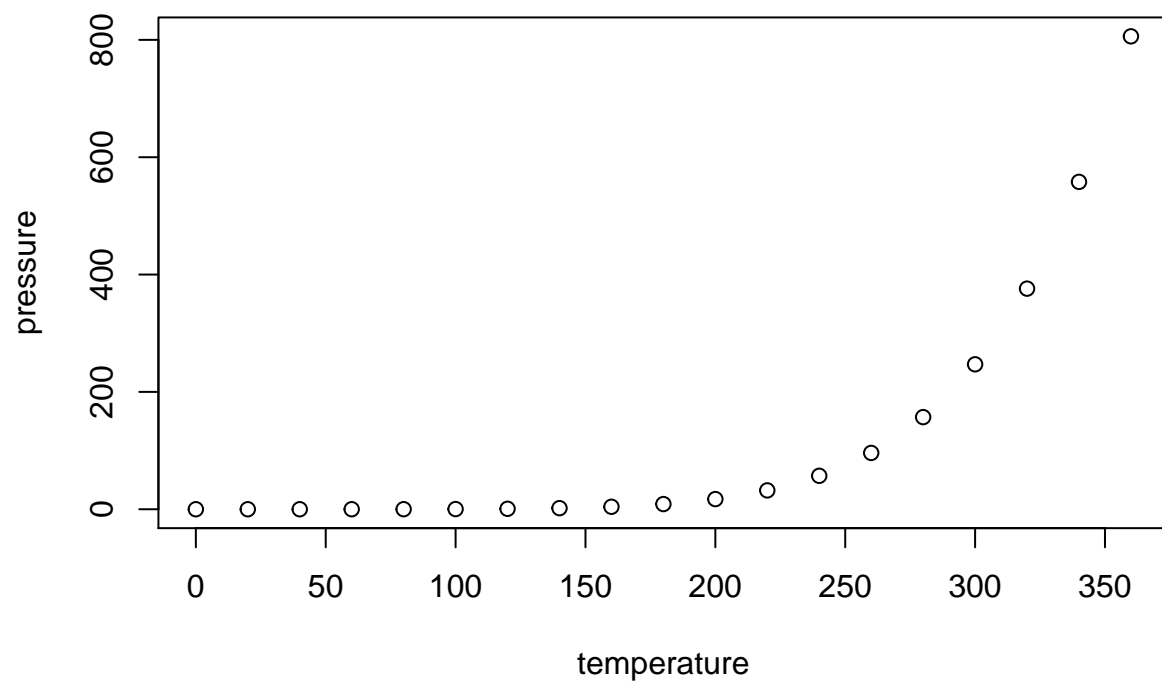
baltimore <- unsolved %>%
  filter(city_name == "Baltimore, MD")

prop.test(x = baltimore$n_unsolved,
          n = baltimore$n_homicides)
```

```
##
## 1-sample proportions test with continuity correction
##
## data:  baltimore$n_unsolved out of baltimore$n_homicides, null probability 0.5
## X-squared = 239.01, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.6275625 0.6631599
## sample estimates:
##           p
## 0.6455607
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.