A look into Homelessness Data in America (Final Project Step2)

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Importing and Cleasing of Data

The different datasets gathered for Homeless data analysis were downloaded in excel (xlxs) and csv format. The following were applied to the data sources:

2021 AHAR: Part 1 - PIT Estimates of Homelessness in the U.S. 2007-2021-PIT-Counts-by-State

- The structure of the spreadsheet have Point In Time homeless information for each year separated in every sheet
- I have created a loop that will read through the Sheet of the years that I'm interested (2017-2022). Each Iteration will append to the new dataframe for PIT Homeless information
- Part of the loop is identifying the year where I created a constant variable of 'year'. The value is assigned is based from the excel sheet where the data is is extracted from.

```r
## Set the working directory to the root of your DSC 520 directory
setwd("C:/Users/janin/OneDrive/Documents/R_repo/dsc520/")

## Load the `PIT by State 2015-2022

# Using For loop, read sheet for year I wanted to extract.
pit_year <- c("2020","2019","2018","2017")

pit_homeless_df <- data.frame()
for (year in pit_year)
{
    # df_name <- paste("pit",year,"_df", sep = "")
    temp<- read_excel("data/homelessdata/2007-2021-PIT-Counts-by-State.xlsx", sheet =year )
    temp["year"] <- year
    #assign(x=df_name, value=temp) #data frame created for every PIT year
    #rm(temp)
    pit_homeless_df <- rbind(pit_homeless_df,temp)
    rm(temp) #Clean-up
}

head (pit_homeless_df)
```

```
## # A tibble: 6 x 542
##   State Number_of_CoCs Total_PIT_Homeless Total_Under_18 Total_Age_18_to_24
##   <chr>          <dbl>              <dbl>          <dbl>              <dbl>
## 1 AK                 2               1949            326                197
```

```
## 2 AL                8            3351            528               198
## 3 AR                4            2366            195               258
## 4 AS                0              NA             NA                NA
## 5 AZ                3           10979           1722               824
## 6 CA               44          161548          16141             13391
## # ... with 537 more variables: Total_Over_24 <dbl>, Total_Female <dbl>,
## #   Total_Male <dbl>, Total_Transgender <dbl>, Total_GenderNonConform <dbl>,
## #   Total_NonHisp <dbl>, Total_Hisp <dbl>, Total_White <dbl>,
## #   Total_AfricanAmerican <dbl>, Total_Asian <dbl>, Total_AmericanIndian <dbl>,
## #   Total_Hawaiian <dbl>, Total_Multiple_Races <dbl>, S_ES_ <dbl>,
## #   S_ES_Under_18 <dbl>, S_ES_Age_18_to_24 <dbl>, S_ES_Over_24 <dbl>,
## #   S_ES_Female <dbl>, S_ES_Male <dbl>, S_ES_Transgender <dbl>, ...
```

The accompanying Housing Inventory Count (HIC) data 2007-2021-HIC-Counts-by-State

- Similar with the PIT information. The structure of the spreadsheet have HIC data information for each year separated in every sheet
- I have created a loop that will read through the Sheet of the years that I'm interested (2017-2022). Each Iteration will append to the new dataframe for HIC Homeless information
- Part of the loop is identifying the year where I created a constant variable of 'year'. The value is assigned is based from the excel sheet where the data is is extracted from.

```r
## Set the working directory to the root of your DSC 520 directory
setwd("C:/Users/janin/OneDrive/Documents/R_repo/dsc520/")

hic_year <- c("2020","2019","2018","2017")
hic_homeless_df <- data.frame()

for (year in hic_year)
{
  temp<- read_excel("data/homelessdata/2007-2021-HIC-Counts-by-State.xlsx", sheet =year,skip=1 )
  temp["year"] <- year
  hic_homeless_df <- rbind(hic_homeless_df,temp)
  rm(temp) #Clean-up
}

head (hic_homeless_df)
```

```
## # A tibble: 6 x 78
##    State TOTAL_YEAR_BED 'Total Non-DV Year-Ro~' 'Total HMIS Ye~' 'HMIS Particip~'
##    <chr>          <dbl>                   <dbl>            <dbl>            <dbl>
## 1 AK              1885                    1347             1122            0.595
## 2 AL              2913                    2291             1659            0.570
## 3 AR              1686                    1193              680            0.403
## 4 AZ              6079                    4943             4352            0.716
## 5 CA             53265                   48649            35666            0.670
## 6 CO              8274                    7693             4460            0.539
## # ... with 73 more variables: TOTAL_YEAR_BED_ES <dbl>, TOTAL_YEAR_BED_TH <dbl>,
## #   TOTAL_YEAR_BED_SH <dbl>,
## #   'Total Units for Households with Children (ES, TH, SH)' <dbl>,
## #   'Total Beds for Households with Children (ES, TH, SH)' <dbl>,
## #   'Total Beds for Households without Children (ES, TH, SH)' <dbl>,
## #   'Total Beds for Households with only Children (ES, TH, SH)' <dbl>,
## #   'Dedicated Veteran Beds (ES, TH, SH)' <dbl>, ...
```

** Merging HUD Exchange Data Because of Similarity of datas tructure where data is by State and year. I have merged the information to have one raw HUD dataset (homeless_df) with data elements from

1. **2021 AHAR: Part 1 - PIT Estimates of Homelessness in the U.S.** 2007-2021-PIT-Counts-by-State

2. **The accompanying Housing Inventory Count (HIC) data** 2007-2021-HIC-Counts-by-State

This raw data includes PIT and HIC information from HUD exchange for a State and Year (for this research, the scope is 2017-2020)

```
homeless_df <- merge(pit_homeless_df, hic_homeless_df , by=c("year", "State"))

homeless_df %>% select(State,year,Number_of_CoCs,Total_PIT_Homeless, Total_Age_18_to_24, Total_Under_18
                    Total_Transgender,Total_GenderNonConform,Total_NonHisp,Total_White,Total_Asian,
                    ,Total_AmericanIndian,S_ES_Multiple_Races,TOTAL_YEAR_BED, TOTAL_YEAR_BED_ES, TOT

colnames(homeless_df)
```

```
##  [1] "State"                 "year"                  "Number_of_CoCs"
##  [4] "Total_PIT_Homeless"    "Total_Age_18_to_24"    "Total_Under_18"
##  [7] "Total_Over_24"         "Total_Female"          "Total_Male"
## [10] "Total_Transgender"     "Total_GenderNonConform" "Total_NonHisp"
## [13] "Total_White"           "Total_Asian"           "Total_Hawaiian"
## [16] "Total_AfricanAmerican" "Total_AmericanIndian"  "S_ES_Multiple_Races"
## [19] "TOTAL_YEAR_BED"        "TOTAL_YEAR_BED_ES"     "TOTAL_YEAR_BED_TH"
## [22] "TOTAL_YEAR_BED_SH"
```

```
head (homeless_df)
```

```
##   State year Number_of_CoCs Total_PIT_Homeless Total_Age_18_to_24
## 1    AK 2017              2               1845                186
## 2    AL 2017              8               3793                300
## 3    AR 2017              6               2467                209
## 4    AZ 2017              3               8947                660
## 5    CA 2017             43             131532              13276
## 6    CO 2017              3              10940                913
##   Total_Under_18 Total_Over_24 Total_Female Total_Male Total_Transgender
## 1            305          1354          765       1075                 4
## 2            528          2965         1314       2453                21
## 3            265          1993          965       1499                 3
## 4           1607          6680         3331       5592                22
## 5          14207        104049        42750      87609               793
## 6           2164          7863         4014       6866                37
##   Total_GenderNonConform Total_NonHisp Total_White Total_Asian Total_Hawaiian
## 1                      1          1743         641          20             69
## 2                      5          3721        1587           9              1
## 3                      0          2405        1447           9              7
## 4                      2          6876        6086          51             46
## 5                    380         90040       68784        2490           1459
## 6                     23          8142        7778          51             45
##   Total_AfricanAmerican Total_AmericanIndian S_ES_Multiple_Races TOTAL_YEAR_BED
## 1                   147                  770                  94           1828
```

3

```
## 2                  2064               21               56             3444
## 3                   892               24               40             2062
## 4                  1611              704              166             5880
## 5                 42282             5663             2135            44473
## 6                  1788              546              279             7071
##    TOTAL_YEAR_BED_ES TOTAL_YEAR_BED_TH TOTAL_YEAR_BED_SH
## 1              1130               698                 0
## 2              2073              1334                37
## 3              1513               549                 0
## 4              3866              1978                36
## 5             24799             19537               137
## 6              3761              3285                25
```

USA FACTS https://usafacts.org/ This website includes public statistic is collected multiple agencies including US Census and for this analysis, I have gathered the following information for the year 2017 -2020 (when available):

1. US Population by State
2. Employment by State
3. Poverty by State
4. Percent of Adult with Depression by State
5. Violence and Crime Rate by State

- I have created a loop that will read through csv file and will capture the yearly information in column
- Part of the loop is identifying the year where I created a constant variable of 'year'. The value is assigned is based from the "COLUMN" where the data is is extracted from.
- While going to each file, the process append the dataset to usfacts_df to merge all information coming from USFACTS source

```r
# Data from USFACTS

# Read US Population
## Set the working directory to the root of your DSC 520 directory
setwd("C:/Users/janin/OneDrive/Documents/R_repo/dsc520/")

us_pop_df<- read.csv("data/homelessdata/USPOPULATION.csv")
colnames(us_pop_df)
```

```
##    [1] "State.Name" "State"      "X1900"      "X1901"      "X1902"
##    [6] "X1903"      "X1904"      "X1905"      "X1906"      "X1907"
##   [11] "X1908"      "X1909"      "X1910"      "X1911"      "X1912"
##   [16] "X1913"      "X1914"      "X1915"      "X1916"      "X1917"
##   [21] "X1918"      "X1919"      "X1920"      "X1921"      "X1922"
##   [26] "X1923"      "X1924"      "X1925"      "X1926"      "X1927"
##   [31] "X1928"      "X1929"      "X1930"      "X1931"      "X1932"
##   [36] "X1933"      "X1934"      "X1935"      "X1936"      "X1937"
##   [41] "X1938"      "X1939"      "X1940"      "X1941"      "X1942"
##   [46] "X1943"      "X1944"      "X1945"      "X1946"      "X1947"
##   [51] "X1948"      "X1949"      "X1950"      "X1951"      "X1952"
##   [56] "X1953"      "X1954"      "X1955"      "X1956"      "X1957"
##   [61] "X1958"      "X1959"      "X1960"      "X1961"      "X1962"
##   [66] "X1963"      "X1964"      "X1965"      "X1966"      "X1967"
##   [71] "X1968"      "X1969"      "X1970"      "X1971"      "X1972"
```

```
## [76] "X1973"      "X1974"      "X1975"      "X1976"      "X1977"
## [81] "X1978"      "X1979"      "X1980"      "X1981"      "X1982"
## [86] "X1983"      "X1984"      "X1985"      "X1986"      "X1987"
## [91] "X1988"      "X1989"      "X1990"      "X1991"      "X1992"
## [96] "X1993"      "X1994"      "X1995"      "X1996"      "X1997"
## [101] "X1998"     "X1999"      "X2000"      "X2001"      "X2002"
## [106] "X2003"     "X2004"      "X2005"      "X2006"      "X2007"
## [111] "X2008"     "X2009"      "X2010"      "X2011"      "X2012"
## [116] "X2013"     "X2014"      "X2015"      "X2016"      "X2017"
## [121] "X2018"     "X2019"      "X2020"      "X2021"
```

```r
uspop_year <- c("2020","2019","2018","2017")

us_pop_year_df <- data.frame()

for (year in uspop_year)
{
  colyear <- paste("X",year,sep = "")
  us_pop_df %>% select (State, colyear) -> temp
  temp["year"] <- year
  names(temp) <-c("State", "Population", "year")
  us_pop_year_df <- rbind(us_pop_year_df,temp)
}
```

```
## Note: Using an external vector in selections is ambiguous.
## i Use `all_of(colyear)` instead of `colyear` to silence this message.
## i See <https://tidyselect.r-lib.org/reference/faq-external-vector.html>.
## This message is displayed once per session.
```

```r
head(us_pop_year_df)
```

```
##   State Population year
## 1    AL    4921532 2020
## 2    AK     731158 2020
## 3    AZ    7421401 2020
## 4    AR    3030522 2020
## 5    CA   39368078 2020
## 6    CO    5807719 2020
```

```r
rm(us_pop_df) #Cleanup raw data

# Employment US Facts per state
us_emp_df<- read.csv("data/homelessdata/employment_usafacts.csv")

colnames(us_emp_df)
```

```
##  [1] "statename" "State"      "X1948"      "X1949"      "X1950"      "X1951"
##  [7] "X1952"      "X1953"      "X1954"      "X1955"      "X1956"      "X1957"
## [13] "X1958"      "X1959"      "X1960"      "X1961"      "X1962"      "X1963"
## [19] "X1964"      "X1965"      "X1966"      "X1967"      "X1968"      "X1969"
## [25] "X1970"      "X1971"      "X1972"      "X1973"      "X1974"      "X1975"
## [31] "X1976"      "X1977"      "X1978"      "X1979"      "X1980"      "X1981"
```

```
## [37] "X1982"      "X1983"      "X1984"      "X1985"      "X1986"      "X1987"
## [43] "X1988"      "X1989"      "X1990"      "X1991"      "X1992"      "X1993"
## [49] "X1994"      "X1995"      "X1996"      "X1997"      "X1998"      "X1999"
## [55] "X2000"      "X2001"      "X2002"      "X2003"      "X2004"      "X2005"
## [61] "X2006"      "X2007"      "X2008"      "X2009"      "X2010"      "X2011"
## [67] "X2012"      "X2013"      "X2014"      "X2015"      "X2016"      "X2017"
## [73] "X2018"      "X2019"      "X2020"
```

```r
#uspop_year <- c("2020","2019","2018","2017")

us_emp_year_df <- data.frame()

for (year in uspop_year)
{
  colyear <- paste("X",year,sep = "")
  us_emp_df %>% select (State, colyear) -> temp
  temp["year"] <- year
  head(temp)
  names(temp) <-c("State", "Employment", "year")
  us_emp_year_df <- rbind(us_emp_year_df,temp)
}

head(us_emp_year_df)
```

```
##    State Employment year
## 1     AL         NA 2020
## 2     AK         NA 2020
## 3     AZ         NA 2020
## 4     AR         NA 2020
## 5     CA         NA 2020
## 6     CO         NA 2020
```

```r
rm(us_emp_df) #Cleanup Raw Data


# Merge Variables USFACTS
usfacts_df <- merge(us_pop_year_df,us_emp_year_df, by =c("year", "State"))

# poverty US Facts per state
us_poverty_df<- read.csv("data/homelessdata/people_in_poverty_usafacts.csv")

colnames(us_poverty_df)
```

```
##  [1] "Years" "State" "X1959" "X1960" "X1961" "X1962" "X1963" "X1964" "X1965"
## [10] "X1966" "X1967" "X1968" "X1969" "X1970" "X1971" "X1972" "X1973" "X1974"
## [19] "X1975" "X1976" "X1977" "X1978" "X1979" "X1980" "X1981" "X1982" "X1983"
## [28] "X1984" "X1985" "X1986" "X1987" "X1988" "X1989" "X1990" "X1991" "X1992"
## [37] "X1993" "X1994" "X1995" "X1996" "X1997" "X1998" "X1999" "X2000" "X2001"
## [46] "X2002" "X2003" "X2004" "X2005" "X2006" "X2007" "X2008" "X2009" "X2010"
## [55] "X2011" "X2012" "X2013" "X2014" "X2015" "X2016" "X2017" "X2018" "X2019"
## [64] "X2020"
```

```
us_poverty_year_df <- data.frame()

for (year in uspop_year)
{
  colyear <- paste("X",year,sep = "")
  us_poverty_df %>% select (State, colyear) -> temp
  temp["year"] <- year
  head(temp)
  names(temp) <-c("State", "Poverty", "year")
  us_poverty_year_df <- rbind(us_poverty_year_df,temp)
}

head(us_poverty_year_df)
```

```
##   State Poverty year
## 1    AL      NA 2020
## 2    AK      NA 2020
## 3    AZ      NA 2020
## 4    AR      NA 2020
## 5    CA      NA 2020
## 6    CO      NA 2020
```

```
rm(us_poverty_df) #clean up raw data


usfacts_df <- merge(usfacts_df,us_poverty_year_df, by =c("year", "State"))


# Depression
us_meddepresspct_df<- read.csv("data/homelessdata/percent_of_adults_with_depression_usafacts.csv")

colnames(us_meddepresspct_df)
```

```
##  [1] "By.State" "State"    "X2011"    "X2012"    "X2013"    "X2014"
##  [7] "X2015"    "X2016"    "X2017"    "X2018"    "X2019"    "X2020"
```

```
us_meddepresspct_year_df <- data.frame()

for (year in uspop_year)
{
  colyear <- paste("X",year,sep = "")
  us_meddepresspct_df %>% select (State, colyear) -> temp
  temp["year"] <- year
  head(temp)
  names(temp) <-c("State", "DepressPCT", "year")
  us_meddepresspct_year_df <- rbind(us_meddepresspct_year_df,temp)
}

head(us_meddepresspct_year_df)
```

```
##   State DepressPCT year
```

```
## 1     AL          NA 2020
## 2     AK          NA 2020
## 3     AZ          NA 2020
## 4     AR          NA 2020
## 5     CA          NA 2020
## 6     CO          NA 2020
```

```r
rm (us_meddepresspct_df) #clean-up raw data

usfacts_df <- merge(usfacts_df,us_meddepresspct_year_df, by =c("year", "State"))


colnames(us_meddepresspct_year_df)
```

```
## [1] "State"      "DepressPCT" "year"
```

```r
# Violence and Crime
us_violencecrime_df<- read.csv("data/homelessdata/violent_crimes_usafacts.csv")

colnames(us_violencecrime_df)
```

```
##  [1] "Statename" "State"     "X1979"     "X1980"     "X1981"     "X1982"
##  [7] "X1983"     "X1984"     "X1985"     "X1986"     "X1987"     "X1988"
## [13] "X1989"     "X1990"     "X1991"     "X1992"     "X1993"     "X1994"
## [19] "X1995"     "X1996"     "X1997"     "X1998"     "X1999"     "X2000"
## [25] "X2001"     "X2002"     "X2003"     "X2004"     "X2005"     "X2006"
## [31] "X2007"     "X2008"     "X2009"     "X2010"     "X2011"     "X2012"
## [37] "X2013"     "X2014"     "X2015"     "X2016"     "X2017"     "X2018"
## [43] "X2019"     "X2020"
```

```r
us_violencecrime_year_df <- data.frame()

for (year in uspop_year)
{
  colyear <- paste("X",year,sep = "")
  us_violencecrime_df %>% select (State, colyear) -> temp
  temp["year"] <- year
  head(temp)
  names(temp) <-c("State", "CrimeViolence", "year")
  us_violencecrime_year_df <- rbind(us_violencecrime_year_df,temp)
  rm(temp)
}


head(us_violencecrime_year_df)
```

```
##   State CrimeViolence year
## 1    AL         22322 2020
## 2    AK          6126 2020
## 3    AZ         35980 2020
## 4    AR         20363 2020
## 5    CA        174026 2020
## 6    CO         24570 2020
```

```
rm(us_violencecrime_df) #Cleanup raw data

usfacts_df <- merge(usfacts_df,us_violencecrime_year_df, by =c("year", "State"))
```

FAIR MARKET RENTS (40TH PERCENTILE RENTS) https://www.huduser.gov/portal/ datasets/fmr.html This dataset contains Fair Market Rents (FMRs) for each state.

- I have extracted the excel spreadsheet per state and created a loop to read data for each yearly spreadsheet.
- I created a constant variable year and assign a value based on the year the data came from
- While going to each file, the process append the dataset to usfacts_df to merge this information with the USFACTS dataframe

```
# Mean housing
setwd("C:/Users/janin/OneDrive/Documents/R_repo/dsc520/")

pop_year <- c("2020","2019","2018","2017")

houserent_mean_year <- data.frame()

for (year in pop_year)
{
  excel_name <- paste("data/homelessdata/FY",year,"_50_County_rev.xlsx", sep = "")
  print(excel_name)
  temp<- read_excel(excel_name)
  temp["year"] <- year
  temp %>% select(rent50_1, rent50_2,rent50_3,rent50_4, state_alpha, year) -> temp1
  names(temp1) <-c("rent50_1", "rent50_2","rent50_3","rent50_4", "State", "year")
  houserent_mean_year <- rbind(houserent_mean_year,temp1)
  rm(temp) #Clean-up
  rm(temp1) #Clean-up
}
```

```
## [1] "data/homelessdata/FY2020_50_County_rev.xlsx"
## [1] "data/homelessdata/FY2019_50_County_rev.xlsx"
## [1] "data/homelessdata/FY2018_50_County_rev.xlsx"
## [1] "data/homelessdata/FY2017_50_County_rev.xlsx"
```

```
head(houserent_mean_year)
```

```
## # A tibble: 6 x 6
##   rent50_1 rent50_2 rent50_3 rent50_4 State year
##      <dbl>    <dbl>    <dbl>    <dbl> <chr> <chr>
## 1      699      920     1209     1560 TX    2020
## 2      699      920     1209     1560 TX    2020
## 3      699      920     1209     1560 TX    2020
## 4      397      452      591      713 PR    2020
## 5      397      452      591      713 PR    2020
## 6      397      452      591      713 PR    2020
```

```r
usfacts_df <- merge(usfacts_df,houserent_mean_year, by =c("year", "State"))
```

NOAA National Climatic Data Center of the United States This dataset contains current average temperature per state. This process reads the dataset and append to usfacts_df to merge this information with the USFACTS dataframe

```r
# Extracted
setwd("C:/Users/janin/OneDrive/Documents/R_repo/dsc520/")

state_ave_weather_df <- read_excel("data/homelessdata/average_weather_state.xlsx")

head(state_ave_weather_df)
```

```
## # A tibble: 6 x 5
##   Statename  State ave_f ave_c weather_rank
##   <chr>      <chr> <dbl> <dbl>        <dbl>
## 1 Alabama    AL     62.8  17.1            7
## 2 Alaska     AK     26.6  -3             50
## 3 Arizona    AZ     60.3  15.7           10
## 4 Arkansas   AR     60.4  15.8            9
## 5 California CA     59.4  15.2           12
## 6 Colorado   CO     45.1   7.3           39
```

```r
usfacts_df <- merge(usfacts_df,state_ave_weather_df, by =c("State"))

head(usfacts_df)
```

```
##   State year Population Employment Poverty DepressPCT CrimeViolence rent50_1
## 1    AK 2017     740983     329200   87000      0.185          6338      978
## 2    AK 2017     740983     329200   87000      0.185          6338      792
## 3    AK 2017     740983     329200   87000      0.185          6338      899
## 4    AK 2017     740983     329200   87000      0.185          6338     1081
## 5    AK 2017     740983     329200   87000      0.185          6338     1068
## 6    AK 2017     740983     329200   87000      0.185          6338     1009
##   rent50_2 rent50_3 rent50_4 Statename ave_f ave_c weather_rank
## 1     1128     1411     1555    Alaska  26.6    -3           50
## 2     1052     1415     1633    Alaska  26.6    -3           50
## 3     1037     1342     1610    Alaska  26.6    -3           50
## 4     1374     2000     2421    Alaska  26.6    -3           50
## 5     1398     1828     2421    Alaska  26.6    -3           50
## 6     1341     1952     2363    Alaska  26.6    -3           50
```

*** To create the Final data, I have merged the homeless_df with the HUD Exchange Information specific on homelessness and usafacts_df with state information that I believe can factor homelessness. Data is breakdown per State and Year.

- This information can be sliced to use Top state with homelessness or look at it in General population (all state)
- We can look at a specific year information within the period of 2017 - 2020
- I would like to look more on the homelessness demographic information but the challenge is that information is not available in public or may require permission to obtain which make sense because of the confidentiality of the information. This limit this analysis to not include identifying Person Risk factors to homelessness or being chronic homeless

```r
us_homeless_df <- merge(homeless_df,usfacts_df, by =c("year", "State"))

head(us_homeless_df, n=200)
```

```
##      year State Number_of_CoCs Total_PIT_Homeless Total_Age_18_to_24
## 1   2017    AK              2               1845                186
## 2   2017    AK              2               1845                186
## 3   2017    AK              2               1845                186
## 4   2017    AK              2               1845                186
## 5   2017    AK              2               1845                186
## 6   2017    AK              2               1845                186
## 7   2017    AK              2               1845                186
## 8   2017    AK              2               1845                186
## 9   2017    AK              2               1845                186
## 10  2017    AK              2               1845                186
## 11  2017    AK              2               1845                186
## 12  2017    AK              2               1845                186
## 13  2017    AK              2               1845                186
## 14  2017    AK              2               1845                186
## 15  2017    AK              2               1845                186
## 16  2017    AK              2               1845                186
## 17  2017    AK              2               1845                186
## 18  2017    AK              2               1845                186
## 19  2017    AK              2               1845                186
## 20  2017    AK              2               1845                186
## 21  2017    AK              2               1845                186
## 22  2017    AK              2               1845                186
## 23  2017    AK              2               1845                186
## 24  2017    AK              2               1845                186
## 25  2017    AK              2               1845                186
## 26  2017    AK              2               1845                186
## 27  2017    AK              2               1845                186
## 28  2017    AK              2               1845                186
## 29  2017    AK              2               1845                186
## 30  2017    AL              8               3793                300
## 31  2017    AL              8               3793                300
## 32  2017    AL              8               3793                300
## 33  2017    AL              8               3793                300
## 34  2017    AL              8               3793                300
## 35  2017    AL              8               3793                300
## 36  2017    AL              8               3793                300
## 37  2017    AL              8               3793                300
## 38  2017    AL              8               3793                300
## 39  2017    AL              8               3793                300
## 40  2017    AL              8               3793                300
## 41  2017    AL              8               3793                300
## 42  2017    AL              8               3793                300
## 43  2017    AL              8               3793                300
## 44  2017    AL              8               3793                300
## 45  2017    AL              8               3793                300
## 46  2017    AL              8               3793                300
## 47  2017    AL              8               3793                300
## 48  2017    AL              8               3793                300
```

```
## 49  2017   AL         8              3793              300
## 50  2017   AL         8              3793              300
## 51  2017   AL         8              3793              300
## 52  2017   AL         8              3793              300
## 53  2017   AL         8              3793              300
## 54  2017   AL         8              3793              300
## 55  2017   AL         8              3793              300
## 56  2017   AL         8              3793              300
## 57  2017   AL         8              3793              300
## 58  2017   AL         8              3793              300
## 59  2017   AL         8              3793              300
## 60  2017   AL         8              3793              300
## 61  2017   AL         8              3793              300
## 62  2017   AL         8              3793              300
## 63  2017   AL         8              3793              300
## 64  2017   AL         8              3793              300
## 65  2017   AL         8              3793              300
## 66  2017   AL         8              3793              300
## 67  2017   AL         8              3793              300
## 68  2017   AL         8              3793              300
## 69  2017   AL         8              3793              300
## 70  2017   AL         8              3793              300
## 71  2017   AL         8              3793              300
## 72  2017   AL         8              3793              300
## 73  2017   AL         8              3793              300
## 74  2017   AL         8              3793              300
## 75  2017   AL         8              3793              300
## 76  2017   AL         8              3793              300
## 77  2017   AL         8              3793              300
## 78  2017   AL         8              3793              300
## 79  2017   AL         8              3793              300
## 80  2017   AL         8              3793              300
## 81  2017   AL         8              3793              300
## 82  2017   AL         8              3793              300
## 83  2017   AL         8              3793              300
## 84  2017   AL         8              3793              300
## 85  2017   AL         8              3793              300
## 86  2017   AL         8              3793              300
## 87  2017   AL         8              3793              300
## 88  2017   AL         8              3793              300
## 89  2017   AL         8              3793              300
## 90  2017   AL         8              3793              300
## 91  2017   AL         8              3793              300
## 92  2017   AL         8              3793              300
## 93  2017   AL         8              3793              300
## 94  2017   AL         8              3793              300
## 95  2017   AL         8              3793              300
## 96  2017   AL         8              3793              300
## 97  2017   AR         6              2467              209
## 98  2017   AR         6              2467              209
## 99  2017   AR         6              2467              209
## 100 2017   AR         6              2467              209
## 101 2017   AR         6              2467              209
## 102 2017   AR         6              2467              209
```

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## 103 2017     AR          6                2467                209
## 104 2017     AR          6                2467                209
## 105 2017     AR          6                2467                209
## 106 2017     AR          6                2467                209
## 107 2017     AR          6                2467                209
## 108 2017     AR          6                2467                209
## 109 2017     AR          6                2467                209
## 110 2017     AR          6                2467                209
## 111 2017     AR          6                2467                209
## 112 2017     AR          6                2467                209
## 113 2017     AR          6                2467                209
## 114 2017     AR          6                2467                209
## 115 2017     AR          6                2467                209
## 116 2017     AR          6                2467                209
## 117 2017     AR          6                2467                209
## 118 2017     AR          6                2467                209
## 119 2017     AR          6                2467                209
## 120 2017     AR          6                2467                209
## 121 2017     AR          6                2467                209
## 122 2017     AR          6                2467                209
## 123 2017     AR          6                2467                209
## 124 2017     AR          6                2467                209
## 125 2017     AR          6                2467                209
## 126 2017     AR          6                2467                209
## 127 2017     AR          6                2467                209
## 128 2017     AR          6                2467                209
## 129 2017     AR          6                2467                209
## 130 2017     AR          6                2467                209
## 131 2017     AR          6                2467                209
## 132 2017     AR          6                2467                209
## 133 2017     AR          6                2467                209
## 134 2017     AR          6                2467                209
## 135 2017     AR          6                2467                209
## 136 2017     AR          6                2467                209
## 137 2017     AR          6                2467                209
## 138 2017     AR          6                2467                209
## 139 2017     AR          6                2467                209
## 140 2017     AR          6                2467                209
## 141 2017     AR          6                2467                209
## 142 2017     AR          6                2467                209
## 143 2017     AR          6                2467                209
## 144 2017     AR          6                2467                209
## 145 2017     AR          6                2467                209
## 146 2017     AR          6                2467                209
## 147 2017     AR          6                2467                209
## 148 2017     AR          6                2467                209
## 149 2017     AR          6                2467                209
## 150 2017     AR          6                2467                209
## 151 2017     AR          6                2467                209
## 152 2017     AR          6                2467                209
## 153 2017     AR          6                2467                209
## 154 2017     AR          6                2467                209
## 155 2017     AR          6                2467                209
## 156 2017     AR          6                2467                209
```

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## 157 2017  AR           6              2467                 209
## 158 2017  AR           6              2467                 209
## 159 2017  AR           6              2467                 209
## 160 2017  AR           6              2467                 209
## 161 2017  AR           6              2467                 209
## 162 2017  AR           6              2467                 209
## 163 2017  AR           6              2467                 209
## 164 2017  AR           6              2467                 209
## 165 2017  AR           6              2467                 209
## 166 2017  AR           6              2467                 209
## 167 2017  AR           6              2467                 209
## 168 2017  AR           6              2467                 209
## 169 2017  AR           6              2467                 209
## 170 2017  AR           6              2467                 209
## 171 2017  AR           6              2467                 209
## 172 2017  AZ           3              8947                 660
## 173 2017  AZ           3              8947                 660
## 174 2017  AZ           3              8947                 660
## 175 2017  AZ           3              8947                 660
## 176 2017  AZ           3              8947                 660
## 177 2017  AZ           3              8947                 660
## 178 2017  AZ           3              8947                 660
## 179 2017  AZ           3              8947                 660
## 180 2017  AZ           3              8947                 660
## 181 2017  AZ           3              8947                 660
## 182 2017  AZ           3              8947                 660
## 183 2017  AZ           3              8947                 660
## 184 2017  AZ           3              8947                 660
## 185 2017  AZ           3              8947                 660
## 186 2017  AZ           3              8947                 660
## 187 2017  CA          43            131532               13276
## 188 2017  CA          43            131532               13276
## 189 2017  CA          43            131532               13276
## 190 2017  CA          43            131532               13276
## 191 2017  CA          43            131532               13276
## 192 2017  CA          43            131532               13276
## 193 2017  CA          43            131532               13276
## 194 2017  CA          43            131532               13276
## 195 2017  CA          43            131532               13276
## 196 2017  CA          43            131532               13276
## 197 2017  CA          43            131532               13276
## 198 2017  CA          43            131532               13276
## 199 2017  CA          43            131532               13276
## 200 2017  CA          43            131532               13276
##     Total_Under_18 Total_Over_24 Total_Female Total_Male Total_Transgender
## 1              305          1354          765       1075                 4
## 2              305          1354          765       1075                 4
## 3              305          1354          765       1075                 4
## 4              305          1354          765       1075                 4
## 5              305          1354          765       1075                 4
## 6              305          1354          765       1075                 4
## 7              305          1354          765       1075                 4
## 8              305          1354          765       1075                 4
## 9              305          1354          765       1075                 4
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## 10            305            1354            765            1075                   4
## 11            305            1354            765            1075                   4
## 12            305            1354            765            1075                   4
## 13            305            1354            765            1075                   4
## 14            305            1354            765            1075                   4
## 15            305            1354            765            1075                   4
## 16            305            1354            765            1075                   4
## 17            305            1354            765            1075                   4
## 18            305            1354            765            1075                   4
## 19            305            1354            765            1075                   4
## 20            305            1354            765            1075                   4
## 21            305            1354            765            1075                   4
## 22            305            1354            765            1075                   4
## 23            305            1354            765            1075                   4
## 24            305            1354            765            1075                   4
## 25            305            1354            765            1075                   4
## 26            305            1354            765            1075                   4
## 27            305            1354            765            1075                   4
## 28            305            1354            765            1075                   4
## 29            305            1354            765            1075                   4
## 30            528            2965            1314            2453                  21
## 31            528            2965            1314            2453                  21
## 32            528            2965            1314            2453                  21
## 33            528            2965            1314            2453                  21
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## 36            528            2965            1314            2453                  21
## 37            528            2965            1314            2453                  21
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## 39            528            2965            1314            2453                  21
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## 46            528            2965            1314            2453                  21
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## 49            528            2965            1314            2453                  21
## 50            528            2965            1314            2453                  21
## 51            528            2965            1314            2453                  21
## 52            528            2965            1314            2453                  21
## 53            528            2965            1314            2453                  21
## 54            528            2965            1314            2453                  21
## 55            528            2965            1314            2453                  21
## 56            528            2965            1314            2453                  21
## 57            528            2965            1314            2453                  21
## 58            528            2965            1314            2453                  21
## 59            528            2965            1314            2453                  21
## 60            528            2965            1314            2453                  21
## 61            528            2965            1314            2453                  21
## 62            528            2965            1314            2453                  21
## 63            528            2965            1314            2453                  21
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## 64           528        2965        1314        2453              21
## 65           528        2965        1314        2453              21
## 66           528        2965        1314        2453              21
## 67           528        2965        1314        2453              21
## 68           528        2965        1314        2453              21
## 69           528        2965        1314        2453              21
## 70           528        2965        1314        2453              21
## 71           528        2965        1314        2453              21
## 72           528        2965        1314        2453              21
## 73           528        2965        1314        2453              21
## 74           528        2965        1314        2453              21
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## 76           528        2965        1314        2453              21
## 77           528        2965        1314        2453              21
## 78           528        2965        1314        2453              21
## 79           528        2965        1314        2453              21
## 80           528        2965        1314        2453              21
## 81           528        2965        1314        2453              21
## 82           528        2965        1314        2453              21
## 83           528        2965        1314        2453              21
## 84           528        2965        1314        2453              21
## 85           528        2965        1314        2453              21
## 86           528        2965        1314        2453              21
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## 88           528        2965        1314        2453              21
## 89           528        2965        1314        2453              21
## 90           528        2965        1314        2453              21
## 91           528        2965        1314        2453              21
## 92           528        2965        1314        2453              21
## 93           528        2965        1314        2453              21
## 94           528        2965        1314        2453              21
## 95           528        2965        1314        2453              21
## 96           528        2965        1314        2453              21
## 97           265        1993         965        1499               3
## 98           265        1993         965        1499               3
## 99           265        1993         965        1499               3
## 100          265        1993         965        1499               3
## 101          265        1993         965        1499               3
## 102          265        1993         965        1499               3
## 103          265        1993         965        1499               3
## 104          265        1993         965        1499               3
## 105          265        1993         965        1499               3
## 106          265        1993         965        1499               3
## 107          265        1993         965        1499               3
## 108          265        1993         965        1499               3
## 109          265        1993         965        1499               3
## 110          265        1993         965        1499               3
## 111          265        1993         965        1499               3
## 112          265        1993         965        1499               3
## 113          265        1993         965        1499               3
## 114          265        1993         965        1499               3
## 115          265        1993         965        1499               3
## 116          265        1993         965        1499               3
## 117          265        1993         965        1499               3
```

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## 118           265           1993           965           1499                3
## 119           265           1993           965           1499                3
## 120           265           1993           965           1499                3
## 121           265           1993           965           1499                3
## 122           265           1993           965           1499                3
## 123           265           1993           965           1499                3
## 124           265           1993           965           1499                3
## 125           265           1993           965           1499                3
## 126           265           1993           965           1499                3
## 127           265           1993           965           1499                3
## 128           265           1993           965           1499                3
## 129           265           1993           965           1499                3
## 130           265           1993           965           1499                3
## 131           265           1993           965           1499                3
## 132           265           1993           965           1499                3
## 133           265           1993           965           1499                3
## 134           265           1993           965           1499                3
## 135           265           1993           965           1499                3
## 136           265           1993           965           1499                3
## 137           265           1993           965           1499                3
## 138           265           1993           965           1499                3
## 139           265           1993           965           1499                3
## 140           265           1993           965           1499                3
## 141           265           1993           965           1499                3
## 142           265           1993           965           1499                3
## 143           265           1993           965           1499                3
## 144           265           1993           965           1499                3
## 145           265           1993           965           1499                3
## 146           265           1993           965           1499                3
## 147           265           1993           965           1499                3
## 148           265           1993           965           1499                3
## 149           265           1993           965           1499                3
## 150           265           1993           965           1499                3
## 151           265           1993           965           1499                3
## 152           265           1993           965           1499                3
## 153           265           1993           965           1499                3
## 154           265           1993           965           1499                3
## 155           265           1993           965           1499                3
## 156           265           1993           965           1499                3
## 157           265           1993           965           1499                3
## 158           265           1993           965           1499                3
## 159           265           1993           965           1499                3
## 160           265           1993           965           1499                3
## 161           265           1993           965           1499                3
## 162           265           1993           965           1499                3
## 163           265           1993           965           1499                3
## 164           265           1993           965           1499                3
## 165           265           1993           965           1499                3
## 166           265           1993           965           1499                3
## 167           265           1993           965           1499                3
## 168           265           1993           965           1499                3
## 169           265           1993           965           1499                3
## 170           265           1993           965           1499                3
## 171           265           1993           965           1499                3
```

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## 172              1607          6680       3331        5592             22
## 173              1607          6680       3331        5592             22
## 174              1607          6680       3331        5592             22
## 175              1607          6680       3331        5592             22
## 176              1607          6680       3331        5592             22
## 177              1607          6680       3331        5592             22
## 178              1607          6680       3331        5592             22
## 179              1607          6680       3331        5592             22
## 180              1607          6680       3331        5592             22
## 181              1607          6680       3331        5592             22
## 182              1607          6680       3331        5592             22
## 183              1607          6680       3331        5592             22
## 184              1607          6680       3331        5592             22
## 185              1607          6680       3331        5592             22
## 186              1607          6680       3331        5592             22
## 187             14207        104049      42750       87609            793
## 188             14207        104049      42750       87609            793
## 189             14207        104049      42750       87609            793
## 190             14207        104049      42750       87609            793
## 191             14207        104049      42750       87609            793
## 192             14207        104049      42750       87609            793
## 193             14207        104049      42750       87609            793
## 194             14207        104049      42750       87609            793
## 195             14207        104049      42750       87609            793
## 196             14207        104049      42750       87609            793
## 197             14207        104049      42750       87609            793
## 198             14207        104049      42750       87609            793
## 199             14207        104049      42750       87609            793
## 200             14207        104049      42750       87609            793
##      Total_GenderNonConform Total_NonHisp Total_White Total_Asian Total_Hawaiian
## 1                         1          1743         641          20             69
## 2                         1          1743         641          20             69
## 3                         1          1743         641          20             69
## 4                         1          1743         641          20             69
## 5                         1          1743         641          20             69
## 6                         1          1743         641          20             69
## 7                         1          1743         641          20             69
## 8                         1          1743         641          20             69
## 9                         1          1743         641          20             69
## 10                        1          1743         641          20             69
## 11                        1          1743         641          20             69
## 12                        1          1743         641          20             69
## 13                        1          1743         641          20             69
## 14                        1          1743         641          20             69
## 15                        1          1743         641          20             69
## 16                        1          1743         641          20             69
## 17                        1          1743         641          20             69
## 18                        1          1743         641          20             69
## 19                        1          1743         641          20             69
## 20                        1          1743         641          20             69
## 21                        1          1743         641          20             69
## 22                        1          1743         641          20             69
## 23                        1          1743         641          20             69
## 24                        1          1743         641          20             69
```

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## 25                    1        1743         641         20           69
## 26                    1        1743         641         20           69
## 27                    1        1743         641         20           69
## 28                    1        1743         641         20           69
## 29                    1        1743         641         20           69
## 30                    5        3721        1587          9            1
## 31                    5        3721        1587          9            1
## 32                    5        3721        1587          9            1
## 33                    5        3721        1587          9            1
## 34                    5        3721        1587          9            1
## 35                    5        3721        1587          9            1
## 36                    5        3721        1587          9            1
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## 41                    5        3721        1587          9            1
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## 46                    5        3721        1587          9            1
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## 48                    5        3721        1587          9            1
## 49                    5        3721        1587          9            1
## 50                    5        3721        1587          9            1
## 51                    5        3721        1587          9            1
## 52                    5        3721        1587          9            1
## 53                    5        3721        1587          9            1
## 54                    5        3721        1587          9            1
## 55                    5        3721        1587          9            1
## 56                    5        3721        1587          9            1
## 57                    5        3721        1587          9            1
## 58                    5        3721        1587          9            1
## 59                    5        3721        1587          9            1
## 60                    5        3721        1587          9            1
## 61                    5        3721        1587          9            1
## 62                    5        3721        1587          9            1
## 63                    5        3721        1587          9            1
## 64                    5        3721        1587          9            1
## 65                    5        3721        1587          9            1
## 66                    5        3721        1587          9            1
## 67                    5        3721        1587          9            1
## 68                    5        3721        1587          9            1
## 69                    5        3721        1587          9            1
## 70                    5        3721        1587          9            1
## 71                    5        3721        1587          9            1
## 72                    5        3721        1587          9            1
## 73                    5        3721        1587          9            1
## 74                    5        3721        1587          9            1
## 75                    5        3721        1587          9            1
## 76                    5        3721        1587          9            1
## 77                    5        3721        1587          9            1
## 78                    5        3721        1587          9            1
```

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## 79                5        3721        1587        9        1
## 80                5        3721        1587        9        1
## 81                5        3721        1587        9        1
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## 83                5        3721        1587        9        1
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## 85                5        3721        1587        9        1
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## 87                5        3721        1587        9        1
## 88                5        3721        1587        9        1
## 89                5        3721        1587        9        1
## 90                5        3721        1587        9        1
## 91                5        3721        1587        9        1
## 92                5        3721        1587        9        1
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## 94                5        3721        1587        9        1
## 95                5        3721        1587        9        1
## 96                5        3721        1587        9        1
## 97                0        2405        1447        9        7
## 98                0        2405        1447        9        7
## 99                0        2405        1447        9        7
## 100               0        2405        1447        9        7
## 101               0        2405        1447        9        7
## 102               0        2405        1447        9        7
## 103               0        2405        1447        9        7
## 104               0        2405        1447        9        7
## 105               0        2405        1447        9        7
## 106               0        2405        1447        9        7
## 107               0        2405        1447        9        7
## 108               0        2405        1447        9        7
## 109               0        2405        1447        9        7
## 110               0        2405        1447        9        7
## 111               0        2405        1447        9        7
## 112               0        2405        1447        9        7
## 113               0        2405        1447        9        7
## 114               0        2405        1447        9        7
## 115               0        2405        1447        9        7
## 116               0        2405        1447        9        7
## 117               0        2405        1447        9        7
## 118               0        2405        1447        9        7
## 119               0        2405        1447        9        7
## 120               0        2405        1447        9        7
## 121               0        2405        1447        9        7
## 122               0        2405        1447        9        7
## 123               0        2405        1447        9        7
## 124               0        2405        1447        9        7
## 125               0        2405        1447        9        7
## 126               0        2405        1447        9        7
## 127               0        2405        1447        9        7
## 128               0        2405        1447        9        7
## 129               0        2405        1447        9        7
## 130               0        2405        1447        9        7
## 131               0        2405        1447        9        7
## 132               0        2405        1447        9        7
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## 133                0      2405    1447     9        7
## 134                0      2405    1447     9        7
## 135                0      2405    1447     9        7
## 136                0      2405    1447     9        7
## 137                0      2405    1447     9        7
## 138                0      2405    1447     9        7
## 139                0      2405    1447     9        7
## 140                0      2405    1447     9        7
## 141                0      2405    1447     9        7
## 142                0      2405    1447     9        7
## 143                0      2405    1447     9        7
## 144                0      2405    1447     9        7
## 145                0      2405    1447     9        7
## 146                0      2405    1447     9        7
## 147                0      2405    1447     9        7
## 148                0      2405    1447     9        7
## 149                0      2405    1447     9        7
## 150                0      2405    1447     9        7
## 151                0      2405    1447     9        7
## 152                0      2405    1447     9        7
## 153                0      2405    1447     9        7
## 154                0      2405    1447     9        7
## 155                0      2405    1447     9        7
## 156                0      2405    1447     9        7
## 157                0      2405    1447     9        7
## 158                0      2405    1447     9        7
## 159                0      2405    1447     9        7
## 160                0      2405    1447     9        7
## 161                0      2405    1447     9        7
## 162                0      2405    1447     9        7
## 163                0      2405    1447     9        7
## 164                0      2405    1447     9        7
## 165                0      2405    1447     9        7
## 166                0      2405    1447     9        7
## 167                0      2405    1447     9        7
## 168                0      2405    1447     9        7
## 169                0      2405    1447     9        7
## 170                0      2405    1447     9        7
## 171                0      2405    1447     9        7
## 172                2      6876    6086    51       46
## 173                2      6876    6086    51       46
## 174                2      6876    6086    51       46
## 175                2      6876    6086    51       46
## 176                2      6876    6086    51       46
## 177                2      6876    6086    51       46
## 178                2      6876    6086    51       46
## 179                2      6876    6086    51       46
## 180                2      6876    6086    51       46
## 181                2      6876    6086    51       46
## 182                2      6876    6086    51       46
## 183                2      6876    6086    51       46
## 184                2      6876    6086    51       46
## 185                2      6876    6086    51       46
## 186                2      6876    6086    51       46
```

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## 187                    380           90040          68784          2490          1459
## 188                    380           90040          68784          2490          1459
## 189                    380           90040          68784          2490          1459
## 190                    380           90040          68784          2490          1459
## 191                    380           90040          68784          2490          1459
## 192                    380           90040          68784          2490          1459
## 193                    380           90040          68784          2490          1459
## 194                    380           90040          68784          2490          1459
## 195                    380           90040          68784          2490          1459
## 196                    380           90040          68784          2490          1459
## 197                    380           90040          68784          2490          1459
## 198                    380           90040          68784          2490          1459
## 199                    380           90040          68784          2490          1459
## 200                    380           90040          68784          2490          1459
##     Total_AfricanAmerican Total_AmericanIndian S_ES_Multiple_Races
## 1                     147                  770                  94
## 2                     147                  770                  94
## 3                     147                  770                  94
## 4                     147                  770                  94
## 5                     147                  770                  94
## 6                     147                  770                  94
## 7                     147                  770                  94
## 8                     147                  770                  94
## 9                     147                  770                  94
## 10                    147                  770                  94
## 11                    147                  770                  94
## 12                    147                  770                  94
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## 15                    147                  770                  94
## 16                    147                  770                  94
## 17                    147                  770                  94
## 18                    147                  770                  94
## 19                    147                  770                  94
## 20                    147                  770                  94
## 21                    147                  770                  94
## 22                    147                  770                  94
## 23                    147                  770                  94
## 24                    147                  770                  94
## 25                    147                  770                  94
## 26                    147                  770                  94
## 27                    147                  770                  94
## 28                    147                  770                  94
## 29                    147                  770                  94
## 30                   2064                   21                  56
## 31                   2064                   21                  56
## 32                   2064                   21                  56
## 33                   2064                   21                  56
## 34                   2064                   21                  56
## 35                   2064                   21                  56
## 36                   2064                   21                  56
## 37                   2064                   21                  56
## 38                   2064                   21                  56
## 39                   2064                   21                  56
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22

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## 40                    2064                21                56
## 41                    2064                21                56
## 42                    2064                21                56
## 43                    2064                21                56
## 44                    2064                21                56
## 45                    2064                21                56
## 46                    2064                21                56
## 47                    2064                21                56
## 48                    2064                21                56
## 49                    2064                21                56
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## 53                    2064                21                56
## 54                    2064                21                56
## 55                    2064                21                56
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## 58                    2064                21                56
## 59                    2064                21                56
## 60                    2064                21                56
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## 62                    2064                21                56
## 63                    2064                21                56
## 64                    2064                21                56
## 65                    2064                21                56
## 66                    2064                21                56
## 67                    2064                21                56
## 68                    2064                21                56
## 69                    2064                21                56
## 70                    2064                21                56
## 71                    2064                21                56
## 72                    2064                21                56
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## 74                    2064                21                56
## 75                    2064                21                56
## 76                    2064                21                56
## 77                    2064                21                56
## 78                    2064                21                56
## 79                    2064                21                56
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## 81                    2064                21                56
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## 85                    2064                21                56
## 86                    2064                21                56
## 87                    2064                21                56
## 88                    2064                21                56
## 89                    2064                21                56
## 90                    2064                21                56
## 91                    2064                21                56
## 92                    2064                21                56
## 93                    2064                21                56
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## 94               2064          21          56
## 95               2064          21          56
## 96               2064          21          56
## 97                892          24          40
## 98                892          24          40
## 99                892          24          40
## 100               892          24          40
## 101               892          24          40
## 102               892          24          40
## 103               892          24          40
## 104               892          24          40
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## 111               892          24          40
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## 121               892          24          40
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## 126               892          24          40
## 127               892          24          40
## 128               892          24          40
## 129               892          24          40
## 130               892          24          40
## 131               892          24          40
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## 133               892          24          40
## 134               892          24          40
## 135               892          24          40
## 136               892          24          40
## 137               892          24          40
## 138               892          24          40
## 139               892          24          40
## 140               892          24          40
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## 142               892          24          40
## 143               892          24          40
## 144               892          24          40
## 145               892          24          40
## 146               892          24          40
## 147               892          24          40
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## 148                 892                 24                 40
## 149                 892                 24                 40
## 150                 892                 24                 40
## 151                 892                 24                 40
## 152                 892                 24                 40
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## 166                 892                 24                 40
## 167                 892                 24                 40
## 168                 892                 24                 40
## 169                 892                 24                 40
## 170                 892                 24                 40
## 171                 892                 24                 40
## 172                1611                704                166
## 173                1611                704                166
## 174                1611                704                166
## 175                1611                704                166
## 176                1611                704                166
## 177                1611                704                166
## 178                1611                704                166
## 179                1611                704                166
## 180                1611                704                166
## 181                1611                704                166
## 182                1611                704                166
## 183                1611                704                166
## 184                1611                704                166
## 185                1611                704                166
## 186                1611                704                166
## 187               42282               5663               2135
## 188               42282               5663               2135
## 189               42282               5663               2135
## 190               42282               5663               2135
## 191               42282               5663               2135
## 192               42282               5663               2135
## 193               42282               5663               2135
## 194               42282               5663               2135
## 195               42282               5663               2135
## 196               42282               5663               2135
## 197               42282               5663               2135
## 198               42282               5663               2135
## 199               42282               5663               2135
## 200               42282               5663               2135
##      TOTAL_YEAR_BED TOTAL_YEAR_BED_ES TOTAL_YEAR_BED_TH TOTAL_YEAR_BED_SH
```

```
## 1      1828      1130      698      0
## 2      1828      1130      698      0
## 3      1828      1130      698      0
## 4      1828      1130      698      0
## 5      1828      1130      698      0
## 6      1828      1130      698      0
## 7      1828      1130      698      0
## 8      1828      1130      698      0
## 9      1828      1130      698      0
## 10     1828      1130      698      0
## 11     1828      1130      698      0
## 12     1828      1130      698      0
## 13     1828      1130      698      0
## 14     1828      1130      698      0
## 15     1828      1130      698      0
## 16     1828      1130      698      0
## 17     1828      1130      698      0
## 18     1828      1130      698      0
## 19     1828      1130      698      0
## 20     1828      1130      698      0
## 21     1828      1130      698      0
## 22     1828      1130      698      0
## 23     1828      1130      698      0
## 24     1828      1130      698      0
## 25     1828      1130      698      0
## 26     1828      1130      698      0
## 27     1828      1130      698      0
## 28     1828      1130      698      0
## 29     1828      1130      698      0
## 30     3444      2073      1334     37
## 31     3444      2073      1334     37
## 32     3444      2073      1334     37
## 33     3444      2073      1334     37
## 34     3444      2073      1334     37
## 35     3444      2073      1334     37
## 36     3444      2073      1334     37
## 37     3444      2073      1334     37
## 38     3444      2073      1334     37
## 39     3444      2073      1334     37
## 40     3444      2073      1334     37
## 41     3444      2073      1334     37
## 42     3444      2073      1334     37
## 43     3444      2073      1334     37
## 44     3444      2073      1334     37
## 45     3444      2073      1334     37
## 46     3444      2073      1334     37
## 47     3444      2073      1334     37
## 48     3444      2073      1334     37
## 49     3444      2073      1334     37
## 50     3444      2073      1334     37
## 51     3444      2073      1334     37
## 52     3444      2073      1334     37
## 53     3444      2073      1334     37
## 54     3444      2073      1334     37
```

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## 55       3444        2073        1334          37
## 56       3444        2073        1334          37
## 57       3444        2073        1334          37
## 58       3444        2073        1334          37
## 59       3444        2073        1334          37
## 60       3444        2073        1334          37
## 61       3444        2073        1334          37
## 62       3444        2073        1334          37
## 63       3444        2073        1334          37
## 64       3444        2073        1334          37
## 65       3444        2073        1334          37
## 66       3444        2073        1334          37
## 67       3444        2073        1334          37
## 68       3444        2073        1334          37
## 69       3444        2073        1334          37
## 70       3444        2073        1334          37
## 71       3444        2073        1334          37
## 72       3444        2073        1334          37
## 73       3444        2073        1334          37
## 74       3444        2073        1334          37
## 75       3444        2073        1334          37
## 76       3444        2073        1334          37
## 77       3444        2073        1334          37
## 78       3444        2073        1334          37
## 79       3444        2073        1334          37
## 80       3444        2073        1334          37
## 81       3444        2073        1334          37
## 82       3444        2073        1334          37
## 83       3444        2073        1334          37
## 84       3444        2073        1334          37
## 85       3444        2073        1334          37
## 86       3444        2073        1334          37
## 87       3444        2073        1334          37
## 88       3444        2073        1334          37
## 89       3444        2073        1334          37
## 90       3444        2073        1334          37
## 91       3444        2073        1334          37
## 92       3444        2073        1334          37
## 93       3444        2073        1334          37
## 94       3444        2073        1334          37
## 95       3444        2073        1334          37
## 96       3444        2073        1334          37
## 97       2062        1513         549           0
## 98       2062        1513         549           0
## 99       2062        1513         549           0
## 100      2062        1513         549           0
## 101      2062        1513         549           0
## 102      2062        1513         549           0
## 103      2062        1513         549           0
## 104      2062        1513         549           0
## 105      2062        1513         549           0
## 106      2062        1513         549           0
## 107      2062        1513         549           0
## 108      2062        1513         549           0
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## 109          2062          1513          549          0
## 110          2062          1513          549          0
## 111          2062          1513          549          0
## 112          2062          1513          549          0
## 113          2062          1513          549          0
## 114          2062          1513          549          0
## 115          2062          1513          549          0
## 116          2062          1513          549          0
## 117          2062          1513          549          0
## 118          2062          1513          549          0
## 119          2062          1513          549          0
## 120          2062          1513          549          0
## 121          2062          1513          549          0
## 122          2062          1513          549          0
## 123          2062          1513          549          0
## 124          2062          1513          549          0
## 125          2062          1513          549          0
## 126          2062          1513          549          0
## 127          2062          1513          549          0
## 128          2062          1513          549          0
## 129          2062          1513          549          0
## 130          2062          1513          549          0
## 131          2062          1513          549          0
## 132          2062          1513          549          0
## 133          2062          1513          549          0
## 134          2062          1513          549          0
## 135          2062          1513          549          0
## 136          2062          1513          549          0
## 137          2062          1513          549          0
## 138          2062          1513          549          0
## 139          2062          1513          549          0
## 140          2062          1513          549          0
## 141          2062          1513          549          0
## 142          2062          1513          549          0
## 143          2062          1513          549          0
## 144          2062          1513          549          0
## 145          2062          1513          549          0
## 146          2062          1513          549          0
## 147          2062          1513          549          0
## 148          2062          1513          549          0
## 149          2062          1513          549          0
## 150          2062          1513          549          0
## 151          2062          1513          549          0
## 152          2062          1513          549          0
## 153          2062          1513          549          0
## 154          2062          1513          549          0
## 155          2062          1513          549          0
## 156          2062          1513          549          0
## 157          2062          1513          549          0
## 158          2062          1513          549          0
## 159          2062          1513          549          0
## 160          2062          1513          549          0
## 161          2062          1513          549          0
## 162          2062          1513          549          0
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## 163          2062          1513           549               0
## 164          2062          1513           549               0
## 165          2062          1513           549               0
## 166          2062          1513           549               0
## 167          2062          1513           549               0
## 168          2062          1513           549               0
## 169          2062          1513           549               0
## 170          2062          1513           549               0
## 171          2062          1513           549               0
## 172          5880          3866          1978              36
## 173          5880          3866          1978              36
## 174          5880          3866          1978              36
## 175          5880          3866          1978              36
## 176          5880          3866          1978              36
## 177          5880          3866          1978              36
## 178          5880          3866          1978              36
## 179          5880          3866          1978              36
## 180          5880          3866          1978              36
## 181          5880          3866          1978              36
## 182          5880          3866          1978              36
## 183          5880          3866          1978              36
## 184          5880          3866          1978              36
## 185          5880          3866          1978              36
## 186          5880          3866          1978              36
## 187         44473         24799         19537             137
## 188         44473         24799         19537             137
## 189         44473         24799         19537             137
## 190         44473         24799         19537             137
## 191         44473         24799         19537             137
## 192         44473         24799         19537             137
## 193         44473         24799         19537             137
## 194         44473         24799         19537             137
## 195         44473         24799         19537             137
## 196         44473         24799         19537             137
## 197         44473         24799         19537             137
## 198         44473         24799         19537             137
## 199         44473         24799         19537             137
## 200         44473         24799         19537             137
##      Population Employment Poverty DepressPCT CrimeViolence rent50_1 rent50_2
## 1        740983     329200   87000      0.185          6338      978     1128
## 2        740983     329200   87000      0.185          6338      792     1052
## 3        740983     329200   87000      0.185          6338      899     1037
## 4        740983     329200   87000      0.185          6338     1081     1374
## 5        740983     329200   87000      0.185          6338     1068     1398
## 6        740983     329200   87000      0.185          6338     1009     1341
## 7        740983     329200   87000      0.185          6338      922     1226
## 8        740983     329200   87000      0.185          6338      836     1068
## 9        740983     329200   87000      0.185          6338      991     1265
## 10       740983     329200   87000      0.185          6338     1395     1609
## 11       740983     329200   87000      0.185          6338     1191     1374
## 12       740983     329200   87000      0.185          6338     1153     1330
## 13       740983     329200   87000      0.185          6338      828     1100
## 14       740983     329200   87000      0.185          6338      827     1099
## 15       740983     329200   87000      0.185          6338      665      875
```

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## 16     740983   329200    87000    0.185     6338    1182    1571
## 17     740983   329200    87000    0.185     6338     931    1195
## 18     740983   329200    87000    0.185     6338    1122    1295
## 19     740983   329200    87000    0.185     6338     891    1144
## 20     740983   329200    87000    0.185     6338    1226    1415
## 21     740983   329200    87000    0.185     6338    1349    1723
## 22     740983   329200    87000    0.185     6338     825     952
## 23     740983   329200    87000    0.185     6338     699     892
## 24     740983   329200    87000    0.185     6338    1202    1555
## 25     740983   329200    87000    0.185     6338    1372    1752
## 26     740983   329200    87000    0.185     6338    1357    1803
## 27     740983   329200    87000    0.185     6338    1144    1320
## 28     740983   329200    87000    0.185     6338     989    1315
## 29     740983   329200    87000    0.185     6338    1061    1370
## 30    4877989  2018700   735000    0.238    25469     529     672
## 31    4877989  2018700   735000    0.238    25469     536     636
## 32    4877989  2018700   735000    0.238    25469     553     710
## 33    4877989  2018700   735000    0.238    25469     480     621
## 34    4877989  2018700   735000    0.238    25469     684     831
## 35    4877989  2018700   735000    0.238    25469     665     800
## 36    4877989  2018700   735000    0.238    25469     503     669
## 37    4877989  2018700   735000    0.238    25469     631     836
## 38    4877989  2018700   735000    0.238    25469     566     709
## 39    4877989  2018700   735000    0.238    25469     475     621
## 40    4877989  2018700   735000    0.238    25469     735     886
## 41    4877989  2018700   735000    0.238    25469     908    1047
## 42    4877989  2018700   735000    0.238    25469     538     621
## 43    4877989  2018700   735000    0.238    25469     538     621
## 44    4877989  2018700   735000    0.238    25469     539     716
## 45    4877989  2018700   735000    0.238    25469     560     658
## 46    4877989  2018700   735000    0.238    25469     557     689
## 47    4877989  2018700   735000    0.238    25469     529     639
## 48    4877989  2018700   735000    0.238    25469     515     621
## 49    4877989  2018700   735000    0.238    25469     812     937
## 50    4877989  2018700   735000    0.238    25469     812     937
## 51    4877989  2018700   735000    0.238    25469     467     621
## 52    4877989  2018700   735000    0.238    25469     812     937
## 53    4877989  2018700   735000    0.238    25469     545     725
## 54    4877989  2018700   735000    0.238    25469     812     937
## 55    4877989  2018700   735000    0.238    25469     702     841
## 56    4877989  2018700   735000    0.238    25469     570     658
## 57    4877989  2018700   735000    0.238    25469     467     621
## 58    4877989  2018700   735000    0.238    25469     568     714
## 59    4877989  2018700   735000    0.238    25469     501     666
## 60    4877989  2018700   735000    0.238    25469     545     665
## 61    4877989  2018700   735000    0.238    25469     538     621
## 62    4877989  2018700   735000    0.238    25469     735     886
## 63    4877989  2018700   735000    0.238    25469     545     678
## 64    4877989  2018700   735000    0.238    25469     545     678
## 65    4877989  2018700   735000    0.238    25469     494     621
## 66    4877989  2018700   735000    0.238    25469     467     621
## 67    4877989  2018700   735000    0.238    25469     735     886
## 68    4877989  2018700   735000    0.238    25469     485     644
## 69    4877989  2018700   735000    0.238    25469     684     831
```

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## 70    4877989    2018700    735000    0.238    25469    494    621
## 71    4877989    2018700    735000    0.238    25469    553    710
## 72    4877989    2018700    735000    0.238    25469    638    797
## 73    4877989    2018700    735000    0.238    25469    528    664
## 74    4877989    2018700    735000    0.238    25469    812    937
## 75    4877989    2018700    735000    0.238    25469    506    672
## 76    4877989    2018700    735000    0.238    25469    538    621
## 77    4877989    2018700    735000    0.238    25469    510    621
## 78    4877989    2018700    735000    0.238    25469    646    859
## 79    4877989    2018700    735000    0.238    25469    665    800
## 80    4877989    2018700    735000    0.238    25469    467    621
## 81    4877989    2018700    735000    0.238    25469    570    758
## 82    4877989    2018700    735000    0.238    25469    543    722
## 83    4877989    2018700    735000    0.238    25469    474    621
## 84    4877989    2018700    735000    0.238    25469    492    654
## 85    4877989    2018700    735000    0.238    25469    538    621
## 86    4877989    2018700    735000    0.238    25469    518    689
## 87    4877989    2018700    735000    0.238    25469    563    650
## 88    4877989    2018700    735000    0.238    25469    783    954
## 89    4877989    2018700    735000    0.238    25469    564    713
## 90    4877989    2018700    735000    0.238    25469    735    886
## 91    4877989    2018700    735000    0.238    25469    600    718
## 92    4877989    2018700    735000    0.238    25469    592    778
## 93    4877989    2018700    735000    0.238    25469    547    717
## 94    4877989    2018700    735000    0.238    25469    530    705
## 95    4877989    2018700    735000    0.238    25469    594    707
## 96    4877989    2018700    735000    0.238    25469    564    713
## 97    3003855    1248700    436000    0.248    16996    486    611
## 98    3003855    1248700    436000    0.248    16996    496    659
## 99    3003855    1248700    436000    0.248    16996    543    722
## 100   3003855    1248700    436000    0.248    16996    538    696
## 101   3003855    1248700    436000    0.248    16996    536    712
## 102   3003855    1248700    436000    0.248    16996    507    674
## 103   3003855    1248700    436000    0.248    16996    460    611
## 104   3003855    1248700    436000    0.248    16996    478    635
## 105   3003855    1248700    436000    0.248    16996    471    623
## 106   3003855    1248700    436000    0.248    16996    460    611
## 107   3003855    1248700    436000    0.248    16996    713    863
## 108   3003855    1248700    436000    0.248    16996    497    611
## 109   3003855    1248700    436000    0.248    16996    538    696
## 110   3003855    1248700    436000    0.248    16996    488    649
## 111   3003855    1248700    436000    0.248    16996    479    636
## 112   3003855    1248700    436000    0.248    16996    618    799
## 113   3003855    1248700    436000    0.248    16996    494    656
## 114   3003855    1248700    436000    0.248    16996    460    611
## 115   3003855    1248700    436000    0.248    16996    460    611
## 116   3003855    1248700    436000    0.248    16996    586    710
## 117   3003855    1248700    436000    0.248    16996    460    611
## 118   3003855    1248700    436000    0.248    16996    476    611
## 119   3003855    1248700    436000    0.248    16996    536    618
## 120   3003855    1248700    436000    0.248    16996    469    623
## 121   3003855    1248700    436000    0.248    16996    530    611
## 122   3003855    1248700    436000    0.248    16996    611    812
## 123   3003855    1248700    436000    0.248    16996    618    799
```

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## 124    3003855    1248700    436000    0.248    16996    460     611
## 125    3003855    1248700    436000    0.248    16996    596     688
## 126    3003855    1248700    436000    0.248    16996    640     775
## 127    3003855    1248700    436000    0.248    16996    511     616
## 128    3003855    1248700    436000    0.248    16996    470     625
## 129    3003855    1248700    436000    0.248    16996    485     645
## 130    3003855    1248700    436000    0.248    16996    460     611
## 131    3003855    1248700    436000    0.248    16996    523     611
## 132    3003855    1248700    436000    0.248    16996    491     653
## 133    3003855    1248700    436000    0.248    16996    460     611
## 134    3003855    1248700    436000    0.248    16996    520     691
## 135    3003855    1248700    436000    0.248    16996    634     732
## 136    3003855    1248700    436000    0.248    16996    460     611
## 137    3003855    1248700    436000    0.248    16996    460     612
## 138    3003855    1248700    436000    0.248    16996    526     635
## 139    3003855    1248700    436000    0.248    16996    523     695
## 140    3003855    1248700    436000    0.248    16996    463     611
## 141    3003855    1248700    436000    0.248    16996    526     656
## 142    3003855    1248700    436000    0.248    16996    536     712
## 143    3003855    1248700    436000    0.248    16996    713     863
## 144    3003855    1248700    436000    0.248    16996    462     614
## 145    3003855    1248700    436000    0.248    16996    570     705
## 146    3003855    1248700    436000    0.248    16996    599     699
## 147    3003855    1248700    436000    0.248    16996    486     611
## 148    3003855    1248700    436000    0.248    16996    713     863
## 149    3003855    1248700    436000    0.248    16996    756     893
## 150    3003855    1248700    436000    0.248    16996    609     765
## 151    3003855    1248700    436000    0.248    16996    521     681
## 152    3003855    1248700    436000    0.248    16996    524     672
## 153    3003855    1248700    436000    0.248    16996    484     611
## 154    3003855    1248700    436000    0.248    16996    531     613
## 155    3003855    1248700    436000    0.248    16996    556     642
## 156    3003855    1248700    436000    0.248    16996    473     629
## 157    3003855    1248700    436000    0.248    16996    467     621
## 158    3003855    1248700    436000    0.248    16996    460     611
## 159    3003855    1248700    436000    0.248    16996    713     863
## 160    3003855    1248700    436000    0.248    16996    460     611
## 161    3003855    1248700    436000    0.248    16996    497     660
## 162    3003855    1248700    436000    0.248    16996    713     863
## 163    3003855    1248700    436000    0.248    16996    462     614
## 164    3003855    1248700    436000    0.248    16996    460     611
## 165    3003855    1248700    436000    0.248    16996    538     696
## 166    3003855    1248700    436000    0.248    16996    526     699
## 167    3003855    1248700    436000    0.248    16996    466     612
## 168    3003855    1248700    436000    0.248    16996    470     625
## 169    3003855    1248700    436000    0.248    16996    618     799
## 170    3003855    1248700    436000    0.248    16996    460     611
## 171    3003855    1248700    436000    0.248    16996    551     732
## 172    7048088    2777200    951000    0.188    35647    518     681
## 173    7048088    2777200    951000    0.188    35647    558     681
## 174    7048088    2777200    951000    0.188    35647    652     781
## 175    7048088    2777200    951000    0.188    35647    639     849
## 176    7048088    2777200    951000    0.188    35647    666     832
## 177    7048088    2777200    951000    0.188    35647    809    1008
```

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## 178    7048088   2777200  951000       0.188          35647     809    1008
## 179    7048088   2777200  951000       0.188          35647     642     806
## 180    7048088   2777200  951000       0.188          35647     541     719
## 181    7048088   2777200  951000       0.188          35647     694     922
## 182    7048088   2777200  951000       0.188          35647     894    1110
## 183    7048088   2777200  951000       0.188          35647     707     940
## 184    7048088   2777200  951000       0.188          35647     637     806
## 185    7048088   2777200  951000       0.188          35647     564     750
## 186    7048088   2777200  951000       0.188          35647     731     958
## 187   39337785  16827100 4759000       0.173         178597     774     932
## 188   39337785  16827100 4759000       0.173         178597     735     954
## 189   39337785  16827100 4759000       0.173         178597     957    1197
## 190   39337785  16827100 4759000       0.173         178597    1209    1590
## 191   39337785  16827100 4759000       0.173         178597     759     949
## 192   39337785  16827100 4759000       0.173         178597     714     931
## 193   39337785  16827100 4759000       0.173         178597    2610    3266
## 194   39337785  16827100 4759000       0.173         178597     838    1114
## 195   39337785  16827100 4759000       0.173         178597    1503    1766
## 196   39337785  16827100 4759000       0.173         178597     924    1228
## 197   39337785  16827100 4759000       0.173         178597     776    1031
## 198   39337785  16827100 4759000       0.173         178597     575     681
## 199   39337785  16827100 4759000       0.173         178597     957    1197
## 200   39337785  16827100 4759000       0.173         178597     639     824
##     rent50_3 rent50_4  Statename ave_f ave_c weather_rank
## 1       1411     1555     Alaska  26.6  -3.0           50
## 2       1415     1633     Alaska  26.6  -3.0           50
## 3       1342     1610     Alaska  26.6  -3.0           50
## 4       2000     2421     Alaska  26.6  -3.0           50
## 5       1828     2421     Alaska  26.6  -3.0           50
## 6       1952     2363     Alaska  26.6  -3.0           50
## 7       1534     1903     Alaska  26.6  -3.0           50
## 8       1336     1472     Alaska  26.6  -3.0           50
## 9       1583     1964     Alaska  26.6  -3.0           50
## 10      2013     2218     Alaska  26.6  -3.0           50
## 11      1858     2133     Alaska  26.6  -3.0           50
## 12      1781     2343     Alaska  26.6  -3.0           50
## 13      1601     1938     Alaska  26.6  -3.0           50
## 14      1375     1515     Alaska  26.6  -3.0           50
## 15      1095     1542     Alaska  26.6  -3.0           50
## 16      2260     2516     Alaska  26.6  -3.0           50
## 17      1560     1903     Alaska  26.6  -3.0           50
## 18      1885     2282     Alaska  26.6  -3.0           50
## 19      1431     1577     Alaska  26.6  -3.0           50
## 20      1770     1950     Alaska  26.6  -3.0           50
## 21      2230     2675     Alaska  26.6  -3.0           50
## 22      1191     1478     Alaska  26.6  -3.0           50
## 23      1225     1230     Alaska  26.6  -3.0           50
## 24      2264     2414     Alaska  26.6  -3.0           50
## 25      2192     2415     Alaska  26.6  -3.0           50
## 26      2256     2799     Alaska  26.6  -3.0           50
## 27      1922     2326     Alaska  26.6  -3.0           50
## 28      1647     1813     Alaska  26.6  -3.0           50
## 29      1902     2127     Alaska  26.6  -3.0           50
## 30       943     1184    Alabama  62.8  17.1            7
```

```
## 31     796     908    Alabama  62.8  17.1            7
## 32     955    1128    Alabama  62.8  17.1            7
## 33     818    1029    Alabama  62.8  17.1            7
## 34    1067    1145    Alabama  62.8  17.1            7
## 35    1088    1410    Alabama  62.8  17.1            7
## 36     890     956    Alabama  62.8  17.1            7
## 37    1050    1152    Alabama  62.8  17.1            7
## 38     905     977    Alabama  62.8  17.1            7
## 39     904    1012    Alabama  62.8  17.1            7
## 40    1136    1536    Alabama  62.8  17.1            7
## 41    1524    1751    Alabama  62.8  17.1            7
## 42     884     887    Alabama  62.8  17.1            7
## 43     784    1094    Alabama  62.8  17.1            7
## 44     989    1027    Alabama  62.8  17.1            7
## 45     953    1054    Alabama  62.8  17.1            7
## 46     911    1052    Alabama  62.8  17.1            7
## 47     844    1050    Alabama  62.8  17.1            7
## 48     818     887    Alabama  62.8  17.1            7
## 49    1258    1405    Alabama  62.8  17.1            7
## 50    1258    1405    Alabama  62.8  17.1            7
## 51     853     856    Alabama  62.8  17.1            7
## 52    1258    1405    Alabama  62.8  17.1            7
## 53     907    1036    Alabama  62.8  17.1            7
## 54    1258    1405    Alabama  62.8  17.1            7
## 55    1171    1482    Alabama  62.8  17.1            7
## 56     958    1159    Alabama  62.8  17.1            7
## 57     884     887    Alabama  62.8  17.1            7
## 58     954    1020    Alabama  62.8  17.1            7
## 59     879    1173    Alabama  62.8  17.1            7
## 60     832     917    Alabama  62.8  17.1            7
## 61     860    1046    Alabama  62.8  17.1            7
## 62    1136    1536    Alabama  62.8  17.1            7
## 63     903     947    Alabama  62.8  17.1            7
## 64     903     947    Alabama  62.8  17.1            7
## 65     884     887    Alabama  62.8  17.1            7
## 66     887    1094    Alabama  62.8  17.1            7
## 67    1136    1536    Alabama  62.8  17.1            7
## 68     884     888    Alabama  62.8  17.1            7
## 69    1067    1145    Alabama  62.8  17.1            7
## 70     884     887    Alabama  62.8  17.1            7
## 71     955    1128    Alabama  62.8  17.1            7
## 72     997    1099    Alabama  62.8  17.1            7
## 73     912     915    Alabama  62.8  17.1            7
## 74    1258    1405    Alabama  62.8  17.1            7
## 75     873     979    Alabama  62.8  17.1            7
## 76     884     887    Alabama  62.8  17.1            7
## 77     884     887    Alabama  62.8  17.1            7
## 78    1157    1402    Alabama  62.8  17.1            7
## 79    1088    1410    Alabama  62.8  17.1            7
## 80     807     891    Alabama  62.8  17.1            7
## 81     948    1045    Alabama  62.8  17.1            7
## 82     903    1031    Alabama  62.8  17.1            7
## 83     876     887    Alabama  62.8  17.1            7
## 84     894    1152    Alabama  62.8  17.1            7
```

```
## 85     896    1003    Alabama  62.8  17.1         7
## 86     981     984    Alabama  62.8  17.1         7
## 87     837     923    Alabama  62.8  17.1         7
## 88    1244    1440    Alabama  62.8  17.1         7
## 89     950    1156    Alabama  62.8  17.1         7
## 90    1136    1536    Alabama  62.8  17.1         7
## 91    1045    1265    Alabama  62.8  17.1         7
## 92     973    1117    Alabama  62.8  17.1         7
## 93    1027    1046    Alabama  62.8  17.1         7
## 94     882    1009    Alabama  62.8  17.1         7
## 95     971     975    Alabama  62.8  17.1         7
## 96     950    1156    Alabama  62.8  17.1         7
## 97     836     897    Arkansas 60.4  15.8         9
## 98     857     908    Arkansas 60.4  15.8         9
## 99     903     995    Arkansas 60.4  15.8         9
## 100    871    1058    Arkansas 60.4  15.8         9
## 101    945    1153    Arkansas 60.4  15.8         9
## 102    861     929    Arkansas 60.4  15.8         9
## 103    764     850    Arkansas 60.4  15.8         9
## 104    794     965    Arkansas 60.4  15.8         9
## 105    780    1098    Arkansas 60.4  15.8         9
## 106    764     910    Arkansas 60.4  15.8         9
## 107   1162    1382    Arkansas 60.4  15.8         9
## 108    867     925    Arkansas 60.4  15.8         9
## 109    871    1058    Arkansas 60.4  15.8         9
## 110    820     958    Arkansas 60.4  15.8         9
## 111    816     877    Arkansas 60.4  15.8         9
## 112   1152    1408    Arkansas 60.4  15.8         9
## 113    939    1113    Arkansas 60.4  15.8         9
## 114    764     867    Arkansas 60.4  15.8         9
## 115    889     961    Arkansas 60.4  15.8         9
## 116    888    1078    Arkansas 60.4  15.8         9
## 117    788     929    Arkansas 60.4  15.8         9
## 118    822     903    Arkansas 60.4  15.8         9
## 119    832     994    Arkansas 60.4  15.8         9
## 120    779     908    Arkansas 60.4  15.8         9
## 121    764     842    Arkansas 60.4  15.8         9
## 122   1022    1220    Arkansas 60.4  15.8         9
## 123   1152    1408    Arkansas 60.4  15.8         9
## 124    837     883    Arkansas 60.4  15.8         9
## 125    887    1056    Arkansas 60.4  15.8         9
## 126   1064    1068    Arkansas 60.4  15.8         9
## 127    801     849    Arkansas 60.4  15.8         9
## 128    782     911    Arkansas 60.4  15.8         9
## 129    924    1121    Arkansas 60.4  15.8         9
## 130    860     891    Arkansas 60.4  15.8         9
## 131    877     891    Arkansas 60.4  15.8         9
## 132    903    1013    Arkansas 60.4  15.8         9
## 133    847     850    Arkansas 60.4  15.8         9
## 134   1006    1042    Arkansas 60.4  15.8         9
## 135   1066    1290    Arkansas 60.4  15.8         9
## 136    867     870    Arkansas 60.4  15.8         9
## 137    891    1078    Arkansas 60.4  15.8         9
## 138    853     875    Arkansas 60.4  15.8         9
```

```
## 139      950     1007    Arkansas  60.4  15.8         9
## 140      875     1077    Arkansas  60.4  15.8         9
## 141      878      986    Arkansas  60.4  15.8         9
## 142      945     1153    Arkansas  60.4  15.8         9
## 143     1162     1382    Arkansas  60.4  15.8         9
## 144      785      943    Arkansas  60.4  15.8         9
## 145      930     1147    Arkansas  60.4  15.8         9
## 146      928     1012    Arkansas  60.4  15.8         9
## 147      889      891    Arkansas  60.4  15.8         9
## 148     1162     1382    Arkansas  60.4  15.8         9
## 149     1216     1423    Arkansas  60.4  15.8         9
## 150      977     1076    Arkansas  60.4  15.8         9
## 151      968     1175    Arkansas  60.4  15.8         9
## 152      920      996    Arkansas  60.4  15.8         9
## 153      889     1077    Arkansas  60.4  15.8         9
## 154      892      950    Arkansas  60.4  15.8         9
## 155      816      936    Arkansas  60.4  15.8         9
## 156      829      867    Arkansas  60.4  15.8         9
## 157      777      905    Arkansas  60.4  15.8         9
## 158      810      994    Arkansas  60.4  15.8         9
## 159     1162     1382    Arkansas  60.4  15.8         9
## 160      764      891    Arkansas  60.4  15.8         9
## 161      881      910    Arkansas  60.4  15.8         9
## 162     1162     1382    Arkansas  60.4  15.8         9
## 163      768      846    Arkansas  60.4  15.8         9
## 164      869      872    Arkansas  60.4  15.8         9
## 165      871     1058    Arkansas  60.4  15.8         9
## 166      886      963    Arkansas  60.4  15.8         9
## 167      781     1069    Arkansas  60.4  15.8         9
## 168      893      904    Arkansas  60.4  15.8         9
## 169     1152     1408    Arkansas  60.4  15.8         9
## 170      834      891    Arkansas  60.4  15.8         9
## 171      916     1140    Arkansas  60.4  15.8         9
## 172      852      939     Arizona  60.3  15.7        10
## 173      973     1154     Arizona  60.3  15.7        10
## 174     1137     1359     Arizona  60.3  15.7        10
## 175     1128     1170     Arizona  60.3  15.7        10
## 176     1181     1466     Arizona  60.3  15.7        10
## 177     1467     1702     Arizona  60.3  15.7        10
## 178     1467     1702     Arizona  60.3  15.7        10
## 179     1092     1262     Arizona  60.3  15.7        10
## 180      981      991     Arizona  60.3  15.7        10
## 181     1342     1588     Arizona  60.3  15.7        10
## 182     1402     1660     Arizona  60.3  15.7        10
## 183     1368     1646     Arizona  60.3  15.7        10
## 184     1155     1246     Arizona  60.3  15.7        10
## 185      938     1321     Arizona  60.3  15.7        10
## 186     1395     1456     Arizona  60.3  15.7        10
## 187     1352     1640  California  59.4  15.2        12
## 188     1389     1681  California  59.4  15.2        12
## 189     1682     2072  California  59.4  15.2        12
## 190     2315     2802  California  59.4  15.2        12
## 191     1346     1573  California  59.4  15.2        12
## 192     1355     1640  California  59.4  15.2        12
```

```
## 193      4250     5225 California  59.4  15.2              12
## 194      1578     1718 California  59.4  15.2              12
## 195      2417     2819 California  59.4  15.2              12
## 196      1536     1994 California  59.4  15.2              12
## 197      1385     1571 California  59.4  15.2              12
## 198       991     1192 California  59.4  15.2              12
## 199      1682     2072 California  59.4  15.2              12
## 200      1194     1439 California  59.4  15.2              12
```

```
#New Variables
us_homeless_df$homeless_pop_ratio<- us_homeless_df$Total_PIT_Homeless/us_homeless_df$Population
```

The following scatter plots are generated to identify relationship between the PIT Homeless count with the different factors

```
#ggplot(us_homeless_df, aes(homeless_pop_ratio)) + geom_histogram(bins = 10, aes(y = ..density..)) + gg

# Adding regression line to identify relationship between the PIT Homeless count with the different fac

#ggplot(data=us_homeless_df, aes(x=State, y=Total_PIT_Homeless)) + geom_bar() + ggtitle("State PIT Home

ggplot(data=us_homeless_df, aes(x=Population, y=Total_PIT_Homeless)) + geom_point() + geom_smooth(metho
```

```
## `geom_smooth()` using formula 'y ~ x'
```
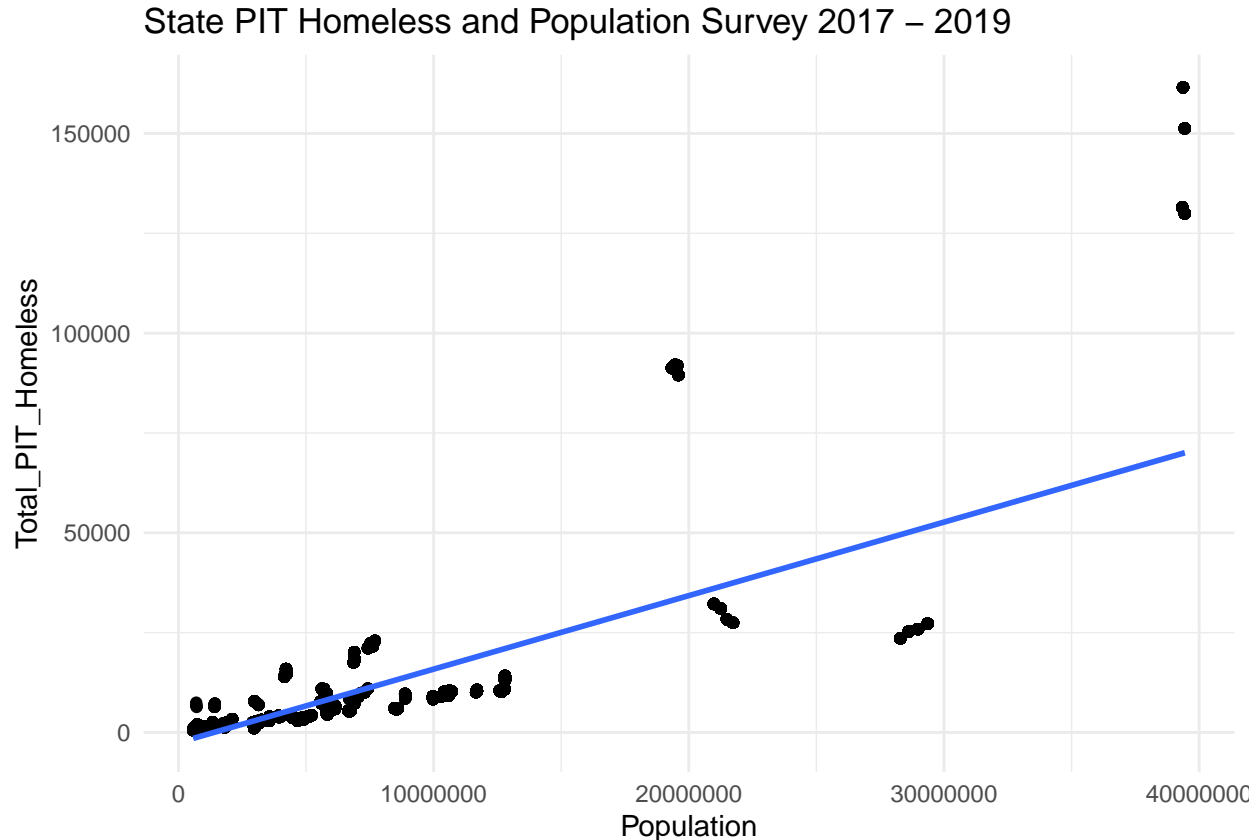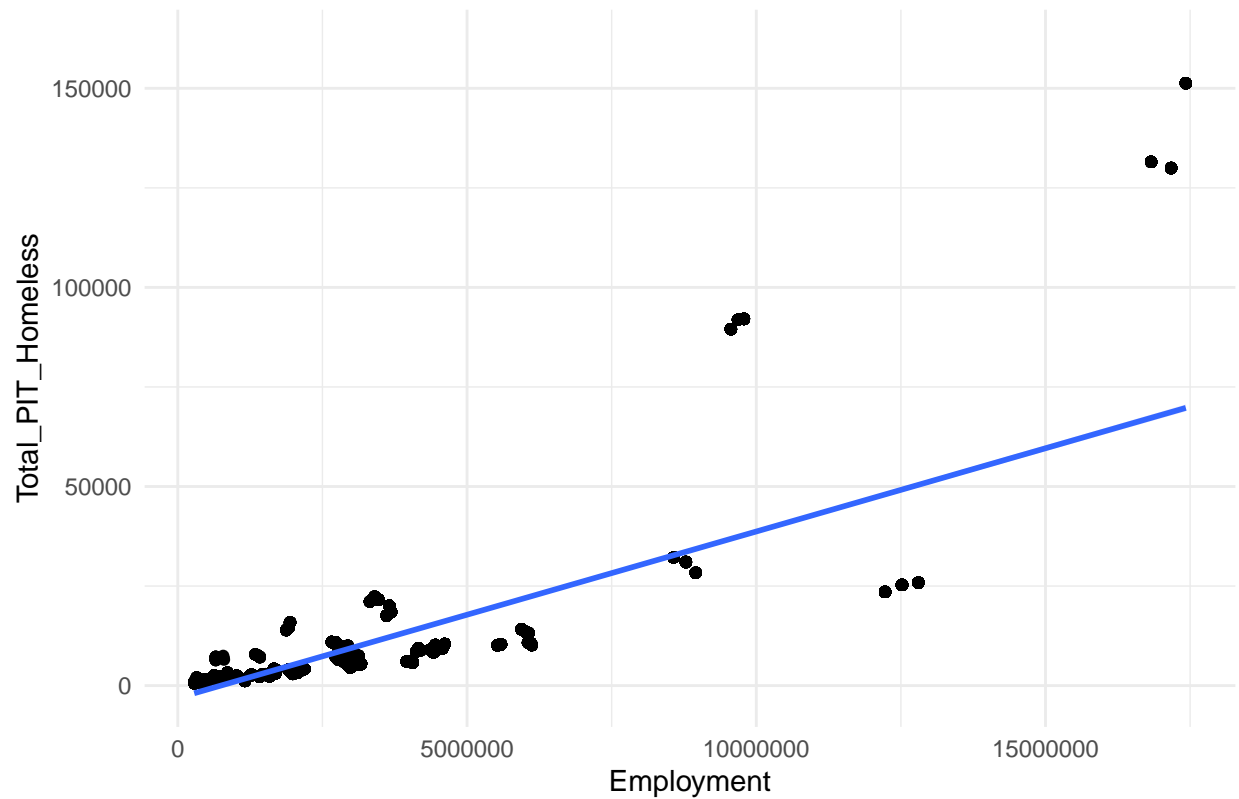
```
ggplot(data=us_homeless_df, aes(x=Poverty, y=Total_PIT_Homeless)) + geom_point() + geom_smooth(method="
```

`geom_smooth()` using formula 'y ~ x'

Warning: Removed 9367 rows containing non-finite values (stat_smooth).

Warning: Removed 9367 rows containing missing values (geom_point).

State PIT Homeless and Poverty Survey 2017 – 2019
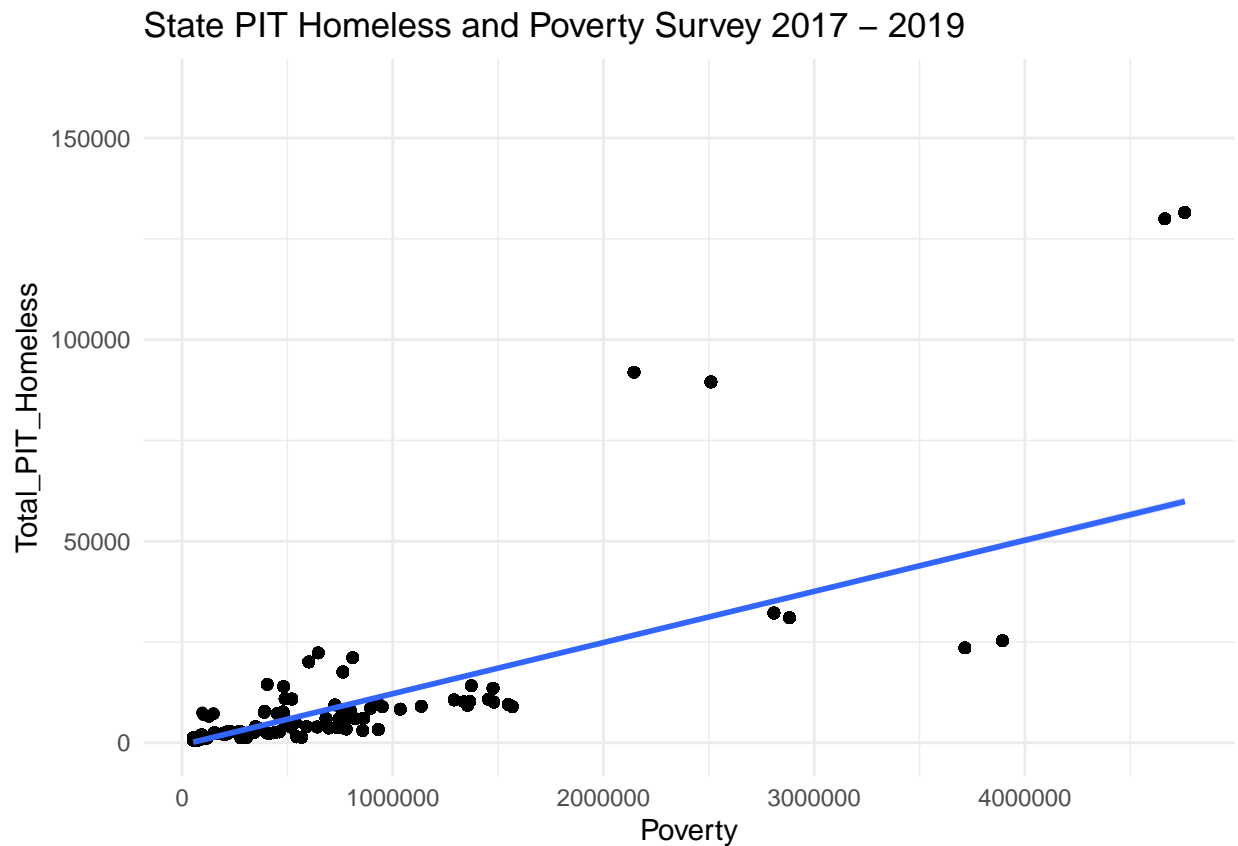
```
ggplot(data=us_homeless_df, aes(x=DepressPCT, y=Total_PIT_Homeless)) + geom_point() + geom_smooth(metho
```

`geom_smooth()` using formula 'y ~ x'

Warning: Removed 4704 rows containing non-finite values (stat_smooth).

Warning: Removed 4704 rows containing missing values (geom_point).

State PIT Homeless and Rate of population Depress PCT Survey 2017 -
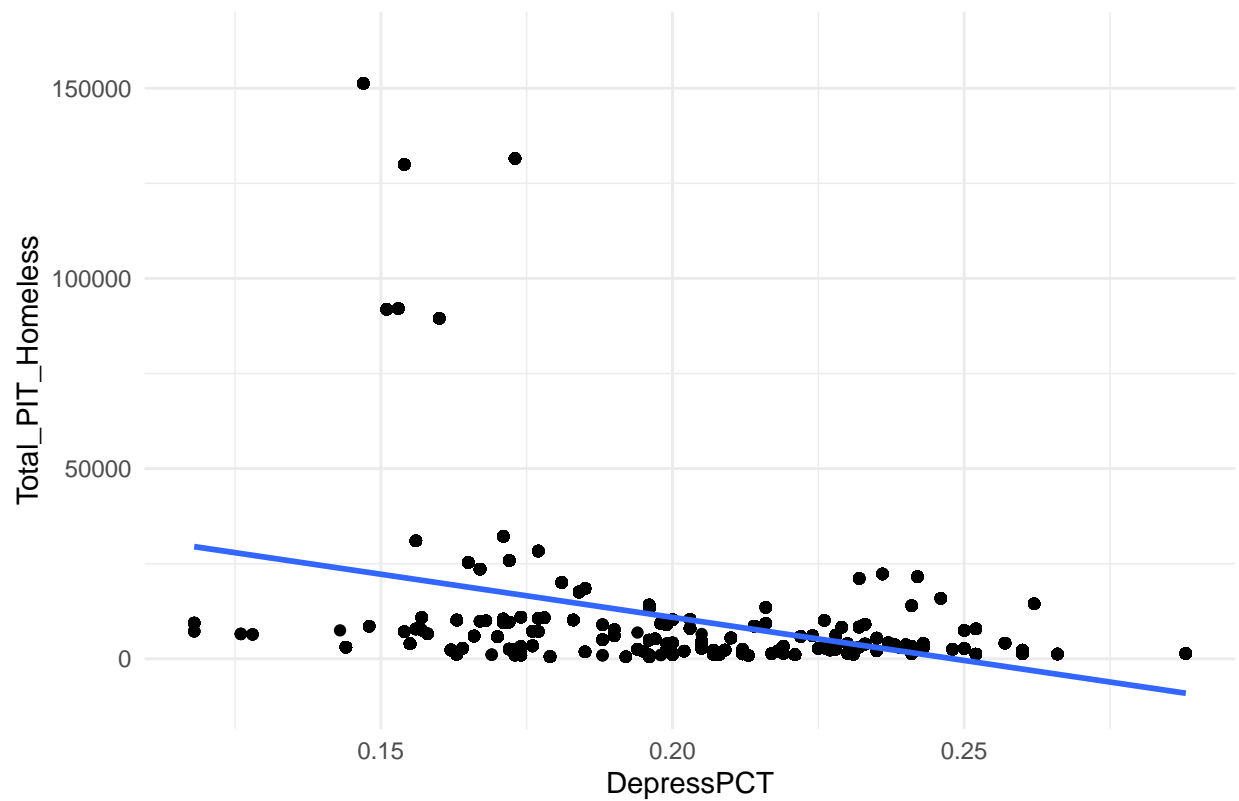

```
ggplot(data=us_homeless_df, aes(x=CrimeViolence, y=Total_PIT_Homeless)) + geom_point() + geom_smooth(me
```

```
## `geom_smooth()` using formula 'y ~ x'
```

State PIT Homeless and CrimeViolence 2017 – 2019
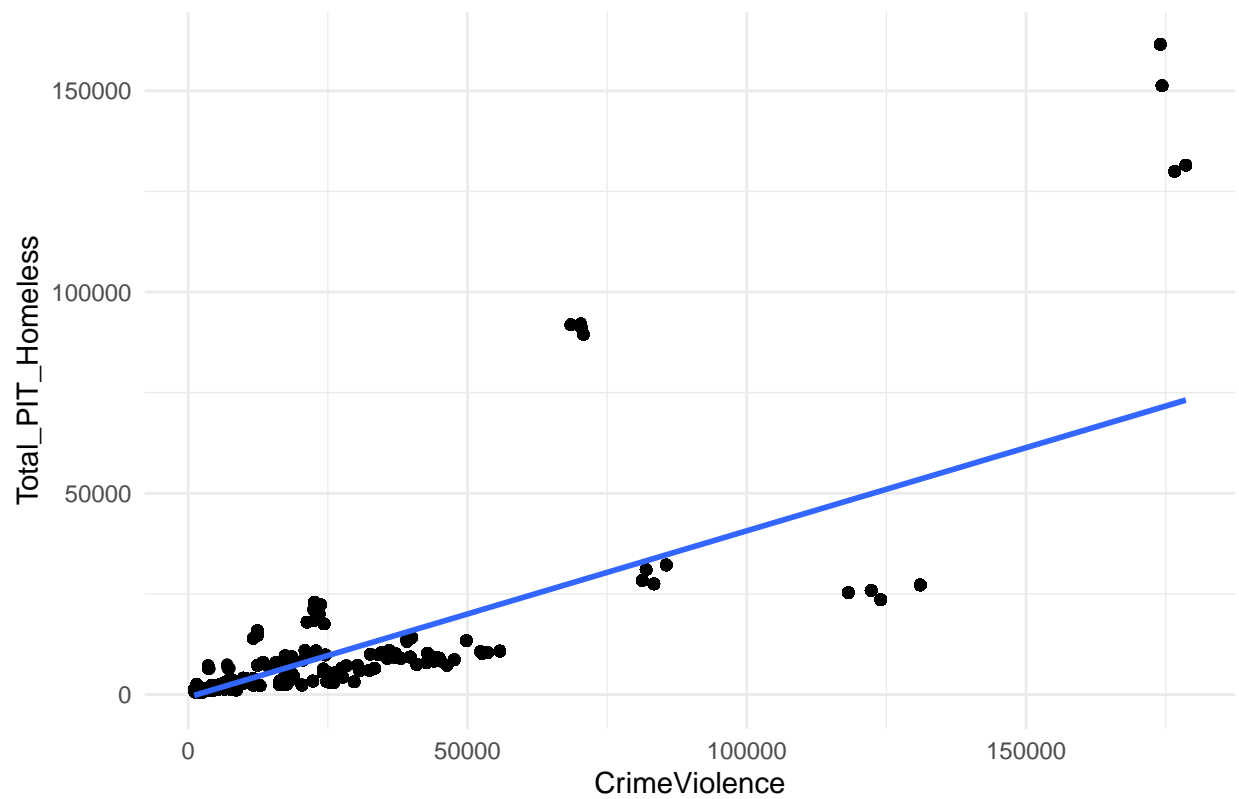

```
ggplot(data=us_homeless_df, aes(x=Employment, y=Total_PIT_Homeless)) + geom_point() + geom_smooth(method
```

```
## `geom_smooth()` using formula 'y ~ x'
```

```
## Warning: Removed 4683 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 4683 rows containing missing values (geom_point).
```

State PIT Homeless and Employment Rate 2017 – 2019


```
ggplot(data=us_homeless_df, aes(x=ave_f, y=Total_PIT_Homeless) ) + geom_point() + geom_smooth(method="lr
```

```
## `geom_smooth()` using formula 'y ~ x'
```

```
## Warning: Removed 4 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 4 rows containing missing values (geom_point).
```

State PIT Homeless and Average State Weather 2017 – 2019
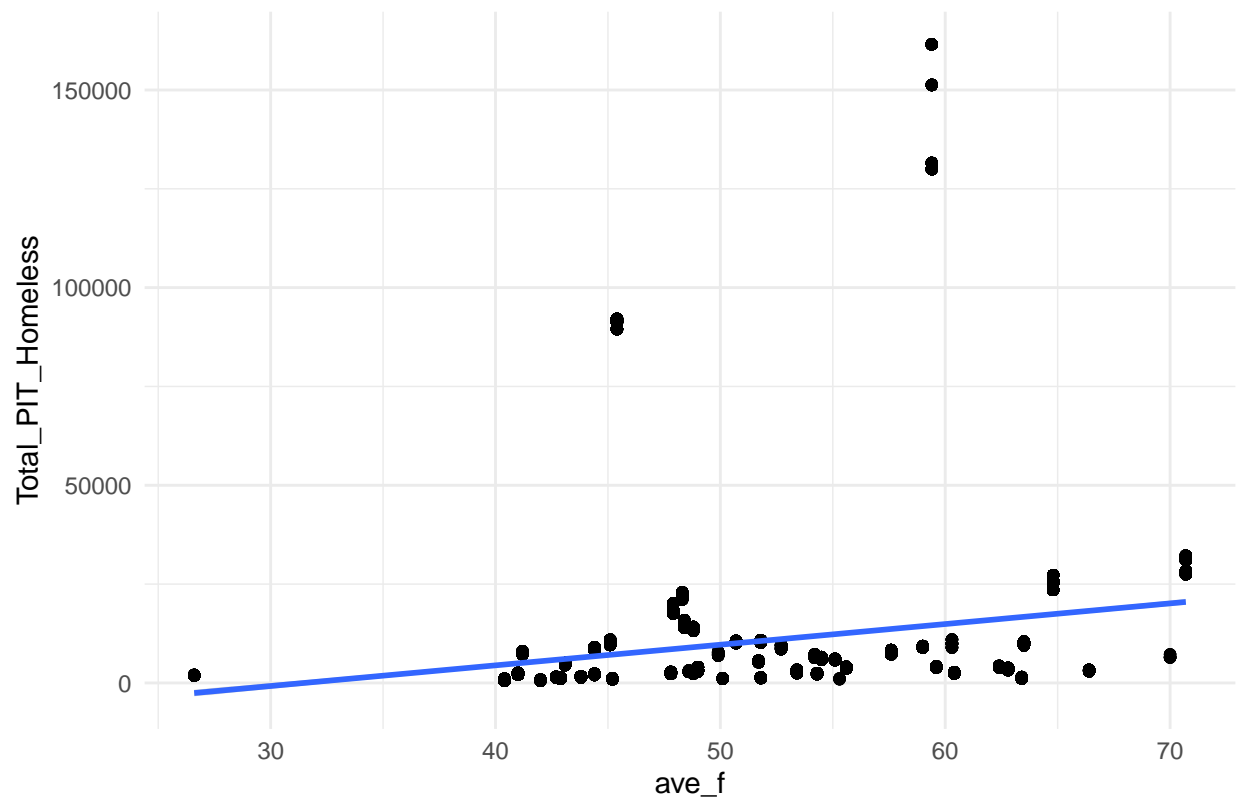

```
ggplot(data=us_homeless_df, aes(x=TOTAL_YEAR_BED, y=Total_PIT_Homeless) ) + geom_point() + geom_smooth(
```

```
## 'geom_smooth()' using formula 'y ~ x'
```

State PIT Homeless and Total Annual Bed/Service 2017 – 2019
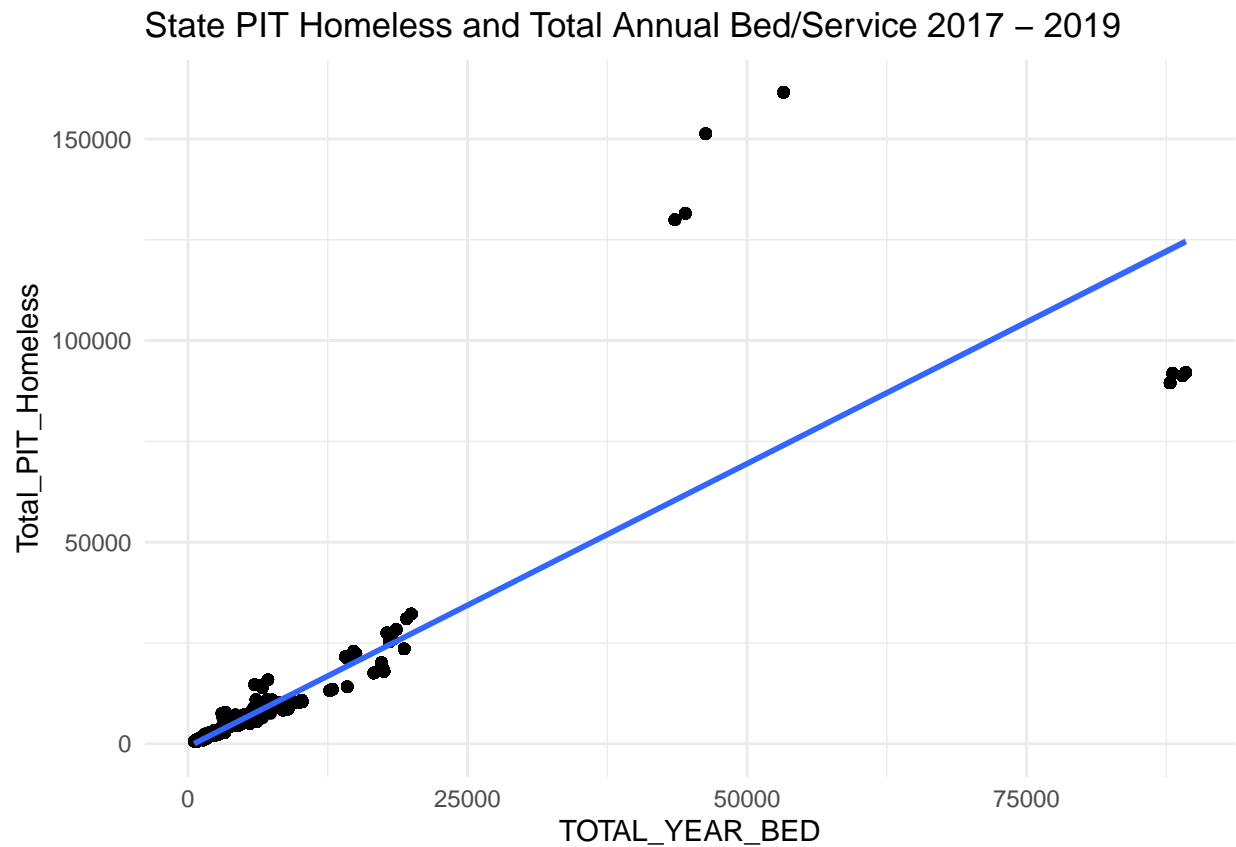
Questions for future steps and Do you plan on incorporating any machine learning techniques to answer your research questions? Explain.

- Next step is to run Correlation Analysis using these different variables with the Total PIT Homelessness.
- Data in the final dataset contains possible predictors that are quantitative continuous variable and the plot generated seem to indicate linear relationship with the TOTAL PIT Homelesness thus this can be used for multiple linear regression.