Final Project EDA

Fall 2025

importing each set of data

```r
library(tidyverse)
circulation <- read_csv("../sml-final-project/library_circulation.csv")
demographics <- read_csv("../sml-final-project/library_demographics.csv")
electronic <- read_csv("../sml-final-project/library_electronic.csv")
programs <- read_csv("../sml-final-project/library_programs.csv")
revenue <- read_csv("../sml-final-project/library_revenue.csv")
services <- read_csv("../sml-final-project/library_services.csv")
```

joining data together

```r
libraries <- inner_join(circulation, demographics, by = "FSCS Key")
libraries <- inner_join(libraries, electronic, by = "FSCS Key")
libraries <- inner_join(libraries, programs, by = "FSCS Key")
libraries <- inner_join(libraries, revenue, by = "FSCS Key")
libraries <- inner_join(libraries, services, by = "FSCS Key")
```

selecting the right variables

```r
libraries_clean <- libraries|>
  select(!c("Library Name.y", "Locale.y", "Service Area Population.y", "Library Name.x.x" ,
            "Locale.x.x","Suppression Note.x", "Service Area Population.x.x", "Library Name.y.y",
            "Locale.y.y", "Service Area Population.y.y", "Library Name.x.x.x", "Locale.x.x.x",
            "Suppression Note.y", "Service Area Population.x.x.x", "Library Name.y.y.y",
            "Locale.y.y.y", "Service Area Population.y.y.y"))|>
  rename("Library Name"="Library Name.x", "Locale"="Locale.x",
         "Service Area Population"="Service Area Population.x","Service Hours per Year"="Hours/Year")

variable.names(libraries_clean)
```

```
##  [1] "FSCS Key"
##  [2] "Library Name"
##  [3] "Locale"
##  [4] "Service Area Population"
##  [5] "Total Circulation"
##  [6] "Percentage of Children's Material Circulation"
##  [7] "Electronic Material Circulation"
##  [8] "Print Material Circulation"
##  [9] "Other Physical Item Circulation"
## [10] "Central Library"
## [11] "Branch Library"
```

```
## [12] "Bookmobiles"
## [13] "Internet Computers"
## [14] "Computer Uses"
## [15] "Wireless Sessions"
## [16] "Total Library Programs"
## [17] "Children's Programs"
## [18] "Young Adult Programs"
## [19] "Adult Programs"
## [20] "Total Program Attendance"
## [21] "Children's Program Attendance"
## [22] "Adult Program Attendance"
## [23] "General Interest Program Attendance"
## [24] "General Interest Programs"
## [25] "Local Revenue ($)"
## [26] "State Revenue ($)"
## [27] "Federal Revenue ($)"
## [28] "Other Revenue ($)"
## [29] "Total Revenue ($)"
## [30] "Service Hours per Year"
## [31] "Physical Visits"
## [32] "Reference Transactions"
## [33] "Registered Users"
## [34] "Inter-library Loans to Other Library"
## [35] "Inter-library Loans from Other Library"
```