Library Presentation

```
library(ggplot2)
library(tidyr)
library(readxl)
library(ggthemes)
library(dplyr)
```

```
Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union
```

Data Source

[poverty_rate_19_20] data1

[data_collect_erkek_2020] data2

[data_collect_kadın_2020] data3

[data_collect_erkek_2019] data4

[data_collect_kadın_2019] data5

Region Number (Düzeltilicek)

Region_Number	Pover
TR10 (İstanbul)	
TR21 (Tekirdağ, Edirne, Kırklareli)	
TR22 (Balıkesir, Çanakkale)	
TR31 (İzmir)	
TR32 (Aydın, Denizli, Muğla)	
TR33 (Manisa, Afyon, Kütahya, Uşak)	
TR41 (Bursa, Eskişehir, Bilecik)	
TR42 (Kocaeli, Sakarya, Düzce, Bolu, Yalova)	
TR51 (Ankara)	
TR52 (Konya, Karaman)	
TR61 (Antalya, Isparta, Burdur)	
TR62 (Adana, Mersin)	
TR63 (Hatay, Kahramanmaraş, Osmaniye)	
TR71 (Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir)	
TR72 (Kayseri, Sivas, Yozgat)	
TR81 (Zonguldak, Karabük, Bartın)	
TR82 (Kastamonu, Çankırı, Sinop)	
TR83 (Samsun, Tokat, Çorum, Amasya)	
TR90 (Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane)	
TRA1 (Erzurum, Erzincan, Bayburt)	
TRA2 (Ağrı, Kars, Iğdır, Ardahan)	
TRB1 (Malatya, Elazığ, Bingöl, Tunceli)	
TRB2 (Van, Muş, Bitlis, Hakkari)	
TRC1 (Gaziantep, Adıyaman, Kilis)	
TRC2 (Şanlıurfa, Diyarbakır)	
TRC3 (Mardin, Batman, Şırnak, Siirt)	

Poverty Rate in 2019-2020 Data

```
# This file contains poverty line in 2019- 2020 and also it contains this data in term of regi
library(readxl)

poverty_rate_19_20 <- read_excel("C:/Users/Necati/Desktop/Poverty Rate 2020-2019.xlsx")

str(poverty_rate_19_20)
```

```
tibble [26 x 3] (S3: tbl_df/tbl/data.frame)
 $ Region_Number  : chr [1:26] "TR10" "TR21" "TR22" "TR31" ...
 $ Poverty Rate_20: num [1:26] 11 11 16 11 12 9 9 9 10 13 ...
 $ Poverty Rate_19: num [1:26] 11 13 12 11 13 9 8 9 10 10 ...
```

```
print(poverty_rate_19_20)
```

```
# A tibble: 26 x 3
   Region_Number `Poverty Rate_20` `Poverty Rate_19`
   <chr>                     <dbl>             <dbl>
```

```
 1 TR10                          11                 11
 2 TR21                          11                 13
 3 TR22                          16                 12
 4 TR31                          11                 11
 5 TR32                          12                 13
 6 TR33                           9                  9
 7 TR41                           9                  8
 8 TR42                           9                  9
 9 TR51                          10                 10
10 TR52                          13                 10
# i 16 more rows
```

Cleaning 2020 Male Data

```
# This file contains poverty line and number of crime in 2020 male data
data_collect_erkek <- read_excel("C:/Users/Necati/Desktop/Data_collection_erkek.xlsx")
temiz_veri_erkek <- na.omit(data_collect_erkek)

veri_temiz_erkek <- data_collect_erkek[rowSums(is.na(data_collect_erkek)) != ncol(data_collect

data_son_temiz_erkek <- veri_temiz_erkek[-c(1,2,5,6,7,9,10,13,14,15,17,18,19,20,22,23,24,26,27
str(data_son_temiz_erkek)
```

```
tibble [26 x 31] (S3: tbl_df/tbl/data.frame)
 $ Region                                          : chr [1:26] "2- İstanbul" "3- Tekirdağ, Ed
 $ Region_Number                                   : num [1:26] 2 3 4 5 6 7 8 9 10 11 ...
 $ Cinsiyet                                        : chr [1:26] "Erkek" "Erkek" "Erkek" "Erkek
 $ Total                                           : num [1:26] 39542 6350 6446 18965 14535 ..
 $ Homicide                                        : num [1:26] 1026 132 131 357 290 ...
 $ Assault                                         : num [1:26] 5055 934 1210 2422 2301 ...
 $ Sexual Crimes                                   : num [1:26] 820 151 133 352 238 237 252 29
 $ Kidnapping                                      : num [1:26] 811 109 123 221 242 231 208 27
 $ Defamation                                      : num [1:26] 520 90 120 353 306 221 207 211
 $ Theft                                           : num [1:26] 6306 928 894 2804 1939 ...
 $ Robbery                                         : num [1:26] 2023 154 129 588 283 ...
 $ Swinding                                        : num [1:26] 1846 120 176 763 580 ...
 $ Production and Commerce of Drugs                : num [1:26] 1954 160 140 577 451 ...
 $ Use and Purchase of Drugs                       : num [1:26] 2621 229 150 1650 719 ...
 $ Forgery                                         : num [1:26] 2428 104 79 402 213 ...
 $ Bad Treatment                                   : num [1:26] 14 2 2 5 6 2 3 3 3 1 ...
 $ Embezzlement                                    : num [1:26] 15 7 9 17 12 10 8 12 14 9 ...
 $ Bribery                                         : num [1:26] 18 6 4 7 5 4 3 2 6 3 ...
 $ Smuggling                                       : num [1:26] 310 70 46 257 147 131 55 121 8
 $ Traffic Crimes                                  : num [1:26] 1335 352 444 1218 1358 ...
 $ Forestry Crimes                                 : num [1:26] 43 15 13 26 36 38 12 105 7 8 .
 $ Crimes Related with Firearms and Knives         : num [1:26] 1655 116 166 468 341 ...
 $ Opposition to the Bankruptcy and Enforcement Law: num [1:26] 1230 313 560 894 1208 ...
 $ Opposition to the Military Criminal Law         : num [1:26] 499 538 246 348 156 123 132 10
```

```
 $ Threat                                          : num [1:26] 916 202 300 586 640 549 366 40
 $ Damage to Property                              : num [1:26] 292 53 81 163 145 111 120 95 1
 $ Prevention of Performance                       : num [1:26] 563 80 111 373 237 217 149 225
 $ Contrary to the Measures for Family Protection  : num [1:26] 612 198 145 416 289 293 342 28
 $ Other Crimes                                    : num [1:26] 6569 1282 1032 3684 2386 ...
 $ Unknown                                         : num [1:26] 61 5 2 14 7 6 10 10 10 8 ...
 $ Poverty Rate (%)                                : num [1:26] 11.4 10.5 16.1 11.1 11.7 9.4 9
```

```r
sum(is.na(data_son_temiz_erkek))
```

```
[1] 0
```

Cleaning 2020 Female Data

```r
# This file contains poverty line adn number of crime in 2020 female data

data_collect_kadin <- read_excel("C:/Users/Necati/Desktop/Data_collection_kadin.xlsx")

temiz_veri_kadin <- na.omit(data_collect_kadin)


veri_temiz_kadin <- data_collect_kadin[rowSums(is.na(data_collect_kadin)) != ncol(data_collect


data_son_temiz_kadin <- veri_temiz_kadin[-c(1,2,5,6,7,9,10,13,14,15,17,18,19,20,22,23,24,26,27

str(data_son_temiz_kadin)
```

```
tibble [26 x 31] (S3: tbl_df/tbl/data.frame)
 $ Region                                          : chr [1:26] "2- İstanbul" "3- Tekirdağ, Ed
 $ Region_Number                                   : num [1:26] 2 3 4 5 6 7 8 9 10 11 ...
 $ Cinsiyet                                        : chr [1:26] "Kadın" "Kadın" "Kadın" "Kadın
 $ Total                                           : num [1:26] 1724 187 338 764 689 ...
 $ Homicide                                        : num [1:26] 26 4 5 14 9 10 5 8 8 9 ...
 $ Assault                                         : num [1:26] 123 17 34 71 77 68 69 37 46 43
 $ Sexual Crimes                                   : num [1:26] 6 0 1 2 1 1 0 2 3 1 ...
 $ Kidnapping                                      : num [1:26] 16 4 5 2 7 2 8 11 5 7 ...
 $ Defamation                                      : num [1:26] 32 3 6 21 12 7 21 7 19 9 ...
 $ Theft                                           : num [1:26] 487 48 94 185 152 92 192 146 1
 $ Robbery                                         : num [1:26] 62 7 6 31 10 10 15 6 12 8 ...
 $ Swinding                                        : num [1:26] 108 1 8 45 45 23 26 18 52 12 .
 $ Production and Commerce of Drugs                : num [1:26] 131 20 18 48 25 33 69 23 42 41
 $ Use and Purchase of Drugs                       : num [1:26] 20 2 1 15 45 8 21 6 13 18 ...
 $ Forgery                                         : num [1:26] 112 12 5 20 10 6 11 25 14 5 ..
 $ Bad Treatment                                   : num [1:26] 25 0 0 3 2 2 3 3 3 0 ...
 $ Embezzlement                                    : num [1:26] 4 1 1 0 1 1 0 0 3 1 ...
 $ Bribery                                         : num [1:26] 0 0 0 0 0 0 0 0 0 0 ...
```

```
 $ Smuggling                                        : num [1:26] 12 1 3 9 3 5 3 4 2 4 ...
 $ Traffic Crimes                                   : num [1:26] 12 1 10 24 16 15 7 11 8 11 ...
 $ Forestry Crimes                                  : num [1:26] 3 0 0 0 0 0 0 3 0 0 ...
 $ Crimes Related with Firearms and Knives          : num [1:26] 9 1 1 5 3 2 7 2 4 3 ...
 $ Opposition to the Bankruptcy and Enforcement Law: num [1:26] 53 11 33 50 96 45 54 38 47 24
 $ Opposition to the Military Criminal Law          : num [1:26] 0 0 0 0 0 0 0 0 0 0 ...
 $ Threat                                           : num [1:26] 25 4 10 15 23 21 17 11 18 17 .
 $ Damage to Property                               : num [1:26] 23 2 2 5 11 7 4 9 9 6 ...
 $ Prevention of Performance                        : num [1:26] 25 2 1 16 4 7 9 7 7 4 ...
 $ Contrary to the Measures for Family Protection   : num [1:26] 25 3 4 12 3 3 6 10 3 1 ...
 $ Other Crimes                                     : num [1:26] 382 43 89 171 134 155 114 117
 $ Unknown                                          : num [1:26] 3 0 1 0 0 0 0 0 1 0 ...
 $ Poverty Rate (%)                                 : num [1:26] 11.4 10.5 16.1 11.1 11.7 9.4 9
```

```
sum(is.na(data_son_temiz_kadin))
```

```
[1] 0
```

Cleaning 2019 Male Data

```
# This file contains poverty line and number of crime in 2019 male data

data_collect_erkek_2019 <- read_excel("C:/Users/Necati/Desktop/Data_collection_2019_erkek.xlsx

temiz_veri_erkek_2019 <- na.omit(data_collect_erkek_2019)


veri_temiz_erkek_2019 <- data_collect_erkek_2019[rowSums(is.na(data_collect_erkek_2019)) != nc


data_son_temiz_erkek_2019 <- veri_temiz_erkek_2019[-c(1,2,5,6,7,9,10,13,14,15,17,18,19,20,22,2
data_son_temiz_erkek_19<-data_son_temiz_erkek_2019[-c(27,28,29,30),]


str(data_son_temiz_erkek_19)
```

```
tibble [26 x 31] (S3: tbl_df/tbl/data.frame)
 $ Region                                           : chr [1:26] "2- İstanbul" "3- Tekirdağ, Ed
 $ Region_Number                                    : num [1:26] 2 3 4 5 6 7 8 9 10 11 ...
 $ Cinsiyet                                         : chr [1:26] "Erkek" "Erkek" "Erkek" "Erkek
 $ Total                                            : num [1:26] 45291 6614 7258 20635 14797 ..
 $ Homicide                                         : num [1:26] 1605 176 276 551 501 ...
 $ Assault                                          : num [1:26] 4969 784 1009 2322 1897 ...
 $ Sexual Crimes                                    : num [1:26] 948 147 180 328 311 292 327 38
 $ Kidnapping                                       : num [1:26] 479 74 114 149 179 151 146 237
 $ Defamation                                       : num [1:26] 420 90 125 342 300 226 226 205
 $ Theft                                            : num [1:26] 6952 1006 946 2758 2058 ...
```

```
 $ Robbery                                          : num [1:26] 3292 263 264 1112 591 ...
 $ Swindling                                        : num [1:26] 1811 125 221 744 484 ...
 $ Production and Commerce of Drugs                 : num [1:26] 3067 301 285 973 720 ...
 $ Use and Purchase of Drugs                        : num [1:26] 3185 354 167 1639 553 ...
 $ Forgery                                          : num [1:26] 2976 150 119 666 312 ...
 $ Bad Treatment                                    : num [1:26] 13 2 3 8 2 2 6 3 3 6 ...
 $ Embezzlement                                     : num [1:26] 25 16 6 12 18 18 5 13 7 7 ...
 $ Bribery                                          : num [1:26] 42 7 4 14 10 2 6 5 8 3 ...
 $ Smuggling                                        : num [1:26] 782 137 72 433 219 189 177 258
 $ Traffic Crimes                                   : num [1:26] 1009 309 322 1196 1064 ...
 $ Forestry Crimes                                  : num [1:26] 27 8 32 22 56 37 24 129 3 9 ..
 $ Crimes Related with Firearms and Knives          : num [1:26] 1516 122 185 407 273 ...
 $ Opposition to the Bankruptcy and Enforcement Law: num [1:26] 1430 436 658 947 1165 ...
 $ Opposition to the Military Criminal Law          : num [1:26] 371 432 183 241 107 101 96 73
 $ Threat                                           : num [1:26] 1429 314 463 1026 984 ...
 $ Damage to Property                               : num [1:26] 385 88 85 195 160 148 143 148
 $ Prevention of Performance                        : num [1:26] 506 71 93 304 246 182 152 201
 $ Contrary to the Measures for Family Protection   : num [1:26] 737 131 137 360 281 239 277 24
 $ Other Crimes                                     : num [1:26] 7311 1069 1305 3885 2305 ...
 $ Unknown                                          : num [1:26] 4 2 4 1 1 0 0 3 1 5 ...
 $ Poverty Rate (%)                                 : num [1:26] 11 13.3 11.7 11.1 12.7 8.8 8 8
```

```r
sum(is.na(data_son_temiz_erkek_19))
```

```
[1] 0
```

Cleaning 2019 Female Data

```r
# This file contains poverty line and number of crime in 2020 male data

data_collect_kadin_2019 <- read_excel("C:/Users/Necati/Desktop/Data_collection_2019_kadin.xlsx

# NA içeren satırları silmek
temiz_veri_kadin_2019 <- na.omit(data_collect_kadin_2019)

veri_temiz_kadin_2019 <- data_collect_kadin_2019[rowSums(is.na(data_collect_kadin_2019)) != nc

data_son_temiz_kadin_2019 <- veri_temiz_kadin_2019[-c(
  1, 2, 5, 6, 7, 9, 10, 13, 14, 15,
  17, 18, 19, 20, 22, 23, 24, 26, 27, 28,
  29, 30, 33, 34, 36, 37, 38, 40, 41, 43,
  44, 45, 47, 48, 49, 50, 51, 53, 54, 55,
  57, 58, 59, 61, 62, 63, 65, 66, 67, 68,
  70, 71, 72, 73, 74, 75, 77, 78, 79, 81,
  82, 83, 84, 86, 87, 88, 89, 91, 92, 93,
  94, 96, 97, 98, 100, 101, 103, 104, 105, 106
), ]
data_son_temiz_kadin_19<-data_son_temiz_kadin_2019[-c(27,28,29,30),]
```

```
str(data_son_temiz_kadin_19)
```

```
tibble [26 x 31] (S3: tbl_df/tbl/data.frame)
 $ Region                                          : chr [1:26] "2- İstanbul" "3- Tekirdağ, Ed
 $ Region_Number                                   : num [1:26] 2 3 4 5 6 7 8 9 10 11 ...
 $ Cinsiyet                                        : chr [1:26] "Kadın" "Kadın" "Kadın" "Kadın
 $ Total                                           : num [1:26] 1800 224 346 817 713 634 645 5
 $ Homicide                                        : num [1:26] 43 6 6 20 8 18 8 9 9 6 ...
 $ Assault                                         : num [1:26] 115 22 33 64 72 60 49 47 53 29
 $ Sexual Crimes                                   : num [1:26] 4 0 2 7 2 3 0 2 3 0 ...
 $ Kidnapping                                      : num [1:26] 18 0 7 3 9 4 10 6 5 2 ...
 $ Defamation                                      : num [1:26] 25 0 10 19 22 17 22 14 14 12 .
 $ Theft                                           : num [1:26] 522 62 65 193 127 111 169 172
 $ Robbery                                         : num [1:26] 67 4 10 22 17 22 11 11 17 14 .
 $ Swindling                                       : num [1:26] 63 5 8 42 42 26 11 19 28 10 ..
 $ Production and Commerce of Drugs                : num [1:26] 137 29 22 46 47 41 120 37 67 5
 $ Use and Purchase of Drugs                       : num [1:26] 33 2 5 21 35 5 13 8 14 25 ...
 $ Forgery                                         : num [1:26] 100 3 8 22 8 11 9 23 10 5 ...
 $ Bad Treatment                                   : num [1:26] 29 0 0 0 0 2 0 0 2 0 ...
 $ Embezzlement                                    : num [1:26] 3 0 0 3 1 0 0 1 0 1 ...
 $ Bribery                                         : num [1:26] 0 0 0 0 1 0 0 0 0 0 ...
 $ Smuggling                                       : num [1:26] 52 5 9 16 11 9 8 12 2 5 ...
 $ Traffic Crimes                                  : num [1:26] 12 3 3 25 11 5 8 7 7 9 ...
 $ Forestry Crimes                                 : num [1:26] 0 0 0 0 0 1 1 0 0 0 ...
 $ Crimes Related with Firearms and Knives         : num [1:26] 10 1 3 7 3 1 7 3 1 2 ...
 $ Opposition to the Bankruptcy and Enforcement Law: num [1:26] 85 30 48 58 88 55 42 35 27 30
 $ Opposition to the Military Criminal Law         : num [1:26] 0 0 0 0 0 0 0 0 0 0 ...
 $ Threat                                          : num [1:26] 33 5 11 35 26 31 21 29 18 18 .
 $ Damage to Property                              : num [1:26] 22 0 2 8 6 4 14 6 6 2 ...
 $ Prevention of Performance                       : num [1:26] 15 4 4 14 9 9 13 5 4 4 ...
 $ Contrary to the Measures for Family Protection  : num [1:26] 35 7 7 12 6 5 5 7 3 2 ...
 $ Other Crimes                                    : num [1:26] 377 36 83 180 162 194 104 122
 $ Unknown                                         : num [1:26] 0 0 0 0 0 0 0 0 0 0 ...
 $ Poverty Rate (%)                                : num [1:26] 11 13.3 11.7 11.1 12.7 8.8 8 8
```

```
sum(is.na(data_son_temiz_kadin_19))
```

```
[1] 0
```

R.data

```
data1<-poverty_rate_19_20
data2<-data_son_temiz_erkek
data3<-data_son_temiz_kadin
data4<-data_son_temiz_erkek_19
```

```r
data5<-data_son_temiz_kadin_19
save(data1, data2,data3, data4, data5, file = "son_veriler.RData")
```

#Data