R Notebook

af = read\_csv("final\_project\_data/AF\_Data.csv")  
des = read\_csv("final\_project\_data/Descriptors\_Census.csv")  
des$Yr = as.factor(des$Yr)  
des$FallEnrollment = as.double(des$FallEnrollment)  
des2 = des[,c(-1,-2,-3,-4)]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Average Income | Average Property Value /ADM | Unemployment Rate | Poverty Rate | % Free & Reduced Lunch |
| Min. : 25047 | Min. : 0 | Min. :0.00000 | Min. :0.0200 | Min. :0.0000 |
| 1st Qu.: 50849 | 1st Qu.: 28507 | 1st Qu.:0.05000 | 1st Qu.:0.1200 | 1st Qu.:0.5130 |
| Median : 56810 | Median : 41924 | Median :0.07000 | Median :0.1700 | Median :0.6690 |
| Mean : 59681 | Mean : 52973 | Mean :0.06931 | Mean :0.1709 | Mean :0.6538 |
| 3rd Qu.: 65339 | 3rd Qu.: 56464 | 3rd Qu.:0.09000 | 3rd Qu.:0.2300 | 3rd Qu.:0.8020 |
| Max. :219858 | Max. :824541 | Max. :0.28000 | Max. :0.5600 | Max. :1.4200 |
| NA’s :7 | NA’s :7 | NA’s :7 | NA’s :7 | NA’s :7 |

|  |  |  |  |
| --- | --- | --- | --- |
| FTE Special Education Teachers | FTE Counselors | FTE Other Staff | FTE Administrators |
| Min. : 0.0000 | Min. : 0.0000 | Min. : 0.00 | Min. : 0.000 |
| 1st Qu.: 0.9325 | 1st Qu.: 0.3200 | 1st Qu.: 0.43 | 1st Qu.: 0.930 |
| Median : 1.6900 | Median : 0.6700 | Median : 1.13 | Median : 1.000 |
| Mean : 2.4788 | Mean : 0.8944 | Mean : 1.62 | Mean : 1.449 |
| 3rd Qu.: 3.0000 | 3rd Qu.: 1.0000 | 3rd Qu.: 2.25 | 3rd Qu.: 2.000 |
| Max. :27.5200 | Max. :12.4900 | Max. :20.63 | Max. :22.010 |

|  |  |  |  |
| --- | --- | --- | --- |
| % Non Special Education Teachers | Average Teacher Salary | % with Advanced Degrees | Average Years Experience |
| Min. : 0.00 | Min. : 0 | Min. :0.0000 | Min. : 0.00 |
| 1st Qu.: 10.76 | 1st Qu.:42318 | 1st Qu.:0.1520 | 1st Qu.:10.55 |
| Median : 17.96 | Median :43886 | Median :0.2300 | Median :12.75 |
| Mean : 21.13 | Mean :44161 | Mean :0.2438 | Mean :12.80 |
| 3rd Qu.: 26.99 | 3rd Qu.:45751 | 3rd Qu.:0.3180 | 3rd Qu.:14.92 |
| Max. :171.87 | Max. :64204 | Max. :1.0000 | Max. :27.46 |

colnames(af)

## [1] "Year"   
## [2] "CountyName"   
## [3] "DistrictName"   
## [4] "SchoolName"   
## [5] "SchoolCode"   
## [6] "IndexScore"   
## [7] "LetteGrade"   
## [8] "LetterGradeGroup"   
## [9] "LowGrade"   
## [10] "HighGrade"   
## [11] "ReportCardType"   
## [12] "Performance\_Multiplier"   
## [13] "GrowthMultiplier"   
## [14] "BottomGrowth\_Multiplier"   
## [15] "TotalBonusPoints"   
## [16] "OveralSchoolGrade"   
## [17] "OverallLetterGrade"   
## [18] "ELA\_ExamCounty"   
## [19] "ELA\_GrowthIndex"   
## [20] "ELA\_LetterGrade"   
## [21] "Math\_ExamCounty"   
## [22] "Math\_GrowthIndex"   
## [23] "Math\_LetterGrade"   
## [24] "Science\_ExamCounty"   
## [25] "Science\_GrowthIndex"   
## [26] "Science\_LetterGrade"   
## [27] "SocialStudies\_ExamCounty"   
## [28] "SocialStudies\_GrowthIndex"   
## [29] "SocialStudies\_LetterGrade"   
## [30] "Writing\_ExamCounty"   
## [31] "Writing\_GrowthIndex"   
## [32] "Writing\_LetterGrade"   
## [33] "Overall\_ExamCounty"   
## [34] "Overall\_GrowthIndex"   
## [35] "Overall\_LetterGrade"   
## [36] "IndexScore\_1"   
## [37] "School\_Level"   
## [38] "LetteGrade\_1"   
## [39] "ELA\_ExamCount\_bq"   
## [40] "ELA\_GrowthIndex\_bq"   
## [41] "ELA\_LetterGradeas\_bq"   
## [42] "Math\_ExamCount\_bq"   
## [43] "Math\_GrowthIndex\_bq"   
## [44] "Math\_LetterGrade\_bq"   
## [45] "OverallExamCount\_bq"   
## [46] "OverallGrowthIndex\_bq"   
## [47] "OverallLetterGrade\_bq"   
## [48] "AttendenceRate"   
## [49] "AttendenceRate\_Bonus"   
## [50] "DropOutRate"   
## [51] "DropOutRate\_Bonus"   
## [52] "AP\_participationIndex"   
## [53] "AP\_PerformanceIndex"   
## [54] "AP\_Bonus"   
## [55] "GradRate"   
## [56] "GradRate\_Bonus"   
## [57] "LowPerfm\_Grade8"   
## [58] "LowPerfm\_Grade8\_Bonus"   
## [59] "CollegeEntranceExam\_Participation"  
## [60] "CollegeEntranceExam\_Performance"   
## [61] "CollegeEntranceExam\_Bonus"   
## [62] "EOIPerformanceRate"   
## [63] "EOIPerformanceRate\_Bonus"   
## [64] "AchievedGrowthTarget"   
## [65] "AchievedGrowthTarget\_Bonus"

kable(  
 summary(af[,c("IndexScore", "ELA\_GrowthIndex","Math\_GrowthIndex","Overall\_GrowthIndex")]),   
 format = "markdown",  
 booktabs=T,  
 digits = 2,   
 row.names = FALSE,   
 col.names = c("Index Score",  
"Reading Growth Index",  
"Math Growth Index",  
"Overall Growth"),  
 caption = "Summary Statistics for A-F Data (Selected)t",  
 escape = TRUE,  
 format.args = list(decimal.mark = ".", big.mark = ","))

|  |  |  |  |
| --- | --- | --- | --- |
| Index Score | Reading Growth Index | Math Growth Index | Overall Growth |
| Min. : 2.00 | Min. : 0.00 | Min. : 0.00 | Min. : 0.00 |
| 1st Qu.: 68.00 | 1st Qu.: 65.00 | 1st Qu.: 61.00 | 1st Qu.: 62.00 |
| Median : 76.00 | Median : 75.00 | Median : 72.00 | Median : 72.00 |
| Mean : 75.46 | Mean : 72.73 | Mean : 69.54 | Mean : 69.58 |
| 3rd Qu.: 85.00 | 3rd Qu.: 83.00 | 3rd Qu.: 81.00 | 3rd Qu.: 80.00 |
| Max. :108.00 | Max. :100.00 | Max. :100.00 | Max. :100.00 |
| NA’s :82 | NA’s :177 | NA’s :167 | NA’s :95 |

enroll = read\_csv("final\_project\_data/Enrollment.csv")  
colnames(table)

## NULL

kable(  
 summary(enroll[,c("Hispanic%", "NativeAmerican%","Asian%","AfricanAmerican%","PacificIslander%", "White%", "TwoRaces%", "Total")]),   
 format = "markdown",  
 booktabs=T,  
 digits = 2,   
 row.names = FALSE,   
 col.names = c("% Hispanic",  
"% Native American",  
"% Asian",  
"% African American",  
"% Pacific Islander",  
"% White",  
"% Two or More Races",  
"Total"),  
 caption = "Summary Statistics Demographics",  
 escape = TRUE,  
 format.args = list(decimal.mark = ".", big.mark = ","))

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| % Hispanic | % Native American | % Asian | % African American | % Pacific Islander | % White | % Two or More Races | Total |
| Min. : 0.0000 | Min. : 0.0000 | Min. : 0.0000 | Min. : 0.0000 | Min. :0.000000 | Min. : 0.0000 | Min. : 0.0000 | Min. : 1.0 |
| 1st Qu.: 0.0423 | 1st Qu.: 0.0449 | 1st Qu.: 0.0000 | 1st Qu.: 0.0065 | 1st Qu.:0.000000 | 1st Qu.: 0.4064 | 1st Qu.: 0.0181 | 1st Qu.: 166.0 |
| Median : 0.0798 | Median : 0.1198 | Median : 0.0043 | Median : 0.0236 | Median :0.000000 | Median : 0.5510 | Median : 0.0595 | Median : 315.0 |
| Mean : 0.5633 | Mean : 0.2894 | Mean : 0.1230 | Mean : 0.3296 | Mean :0.004298 | Mean : 1.2958 | Mean : 0.1943 | Mean : 380.3 |
| 3rd Qu.: 0.1478 | 3rd Qu.: 0.2836 | 3rd Qu.: 0.0140 | 3rd Qu.: 0.0675 | 3rd Qu.:0.002000 | 3rd Qu.: 0.6712 | 3rd Qu.: 0.1084 | 3rd Qu.: 499.0 |
| Max. :347.0000 | Max. :97.0000 | Max. :89.0000 | Max. :206.0000 | Max. :2.333300 | Max. :872.0000 | Max. :100.0000 | Max. :3778.0 |