HW5

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Problem 1

```
library(faraway)
data<-state.x77
head(data)
```

```
           Population Income Illiteracy Life Exp Murder HS Grad Frost   Area
Alabama          3615   3624        2.1    69.05   15.1    41.3    20  50708
Alaska            365   6315        1.5    69.31   11.3    66.7   152 566432
Arizona          2212   4530        1.8    70.55    7.8    58.1    15 113417
Arkansas         2110   3378        1.9    70.66   10.1    39.9    65  51945
California      21198   5114        1.1    71.71   10.3    62.6    20 156361
Colorado         2541   4884        0.7    72.06    6.8    63.9   166 103766
```

a) Provide descriptive statistics for all variables of interest (continuous and categorical) – no test required.

matrix with 50 rows and 8 columns giving the following statistics in the respective columns.

1.Population(continuous): population estimate as of July 1, 1975

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

365, 1079.5, 2838.5, 4246.42, 4968.5, 2.1198×10^4

2.Income(continuous): per capita income (1974)

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

3098, 3992.75, 4519, 4435.8, 4813.5, 6315

3.Illiteracy(continuous): illiteracy (1970, percent of population)

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

0.5, 0.625, 0.95, 1.17, 1.575, 2.8

4.Life Exp(continuous): life expectancy in years (1969–71)

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

67.96, 70.1175, 70.675, 70.8786, 71.8925, 73.6

5.Murder(continuous): murder and non-negligent manslaughter rate per 100,000 population (1976)

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

1.4, 4.35, 6.85, 7.378, 10.675, 15.1

6.HS Grad(continuous): percent high-school graduates (1970)

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

37.8, 48.05, 53.25, 53.108, 59.15, 67.3

7.Frost(continuous): mean number of days with minimum temperature below freezing (1931–1960) in capital or large city

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

0, 66.25, 114.5, 104.46, 139.75, 188

8.Area(continuous): land area in square miles

Min. 1st Qu. Median Mean 3rd Qu. Max. are presented as follows:

1049, 3.698525×10^4, 5.4277×10^4, 7.073588×10^4, 8.11625×10^4, 5.66432×10^5