FML-Assignment1

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1.Dataset import:

```
# Downloading the Interstellar Travel Customer Satisfaction Analysis dataset from Kaggle.
url <- "https://www.kaggle.com/datasets/anthonytherrien/interstellar-travel-customer-satisfaction-analys
ITCS_data <- read.csv("C://Users//sandh//Downloads//ITCS_data.csv")
```

```
# Dataset first few rows
head(ITCS_data)
```

```
##   Age Gender     Occupation Travel.Class           Destination
## 1  14 Female       Colonist     Business            Gliese 581
## 2  22   Male        Tourist      Economy        Alpha Centauri
## 3  62 Female Businessperson       Luxury        Alpha Centauri
## 4  21 Female       Colonist      Economy         Lalande 21185
## 5  42   Male       Explorer       Luxury Exotic Destination 10
## 6  30   Male          Other      Economy              Tau Ceti
##            Star.System Distance.to.Destination..Light.Years.
## 1 Cunningham Mountains                                 1.09
## 2          Hayes Trace                                 5.70
## 3            Anna Port                                 0.37
## 4          Henry Ville                                 0.32
## 5          Graves Mall                                 6.17
## 6       Vazquez Tunnel                                10.51
##   Duration.of.Stay..Earth.Days. NumberofCcompanions Purpose.of.Travel
## 1                            11                   5           Tourism
## 2                            23                   0          Research
## 3                             4                   1           Tourism
## 4                            23                   1           Tourism
## 5                            42                   1      Colonization
## 6                            60                   1      Colonization
##   Transportation.Type Price..Galactic.Credits. Booking.Date DepartureDate
## 1          Warp Drive                 828.9493   17-09-2023    07-01-2025
## 2       Solar Sailing                 488.4691   31-03-2023    26-12-2025
## 3        Ion Thruster                 183.7459   19-05-2022    04-01-2025
## 4          Warp Drive                 358.7540   13-04-2023    09-02-2024
## 5        Ion Thruster                3073.7599   12-06-2023    15-03-2024
## 6          Warp Drive                1136.1619   13-04-2023    16-02-2025
##   SpecialRequests LoyaltyProgramMember Month CustomerSatisfactionScore
## 1           Other                   No     9                       105
## 2           Other                   No     3                       102
## 3            None                  Yes     5                       100
```

```
## 4            None                   No     4                      108
## 5    Special Meal                   No     6                       97
## 6           Other                   No     4                      105
```

2.Printing-Descriptive Statistics:

```
# Quantitative variables-Summary
summary(ITCS_data$Age)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0    16.0    27.0    31.1    43.0    99.0
```

```
# Categorical variable-Frequency table
table(ITCS_data$Gender)
```

```
##
## Female   Male
## 228563 319005
```

3. Transforming the Variable:

```
#Square root transformation for one quantitative variable
ITCS_data$Month_log <- log(ITCS_data$Month)
# Print or visualize the transformed data
head(ITCS_data)
```

```
##   Age Gender     Occupation Travel.Class           Destination
## 1  14 Female       Colonist     Business            Gliese 581
## 2  22   Male        Tourist      Economy        Alpha Centauri
## 3  62 Female Businessperson       Luxury        Alpha Centauri
## 4  21 Female       Colonist      Economy         Lalande 21185
## 5  42   Male       Explorer       Luxury Exotic Destination 10
## 6  30   Male          Other      Economy              Tau Ceti
##            Star.System Distance.to.Destination..Light.Years.
## 1 Cunningham Mountains                                 1.09
## 2          Hayes Trace                                 5.70
## 3            Anna Port                                 0.37
## 4          Henry Ville                                 0.32
## 5          Graves Mall                                 6.17
## 6       Vazquez Tunnel                                10.51
##   Duration.of.Stay..Earth.Days. NumberofCcompanions Purpose.of.Travel
## 1                            11                   5           Tourism
## 2                            23                   0          Research
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##   Transportation.Type Price..Galactic.Credits. Booking.Date DepartureDate
## 1          Warp Drive                 828.9493   17-09-2023    07-01-2025
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## 3        Ion Thruster                 183.7459   19-05-2022    04-01-2025
## 4          Warp Drive                 358.7540   13-04-2023    09-02-2024
```
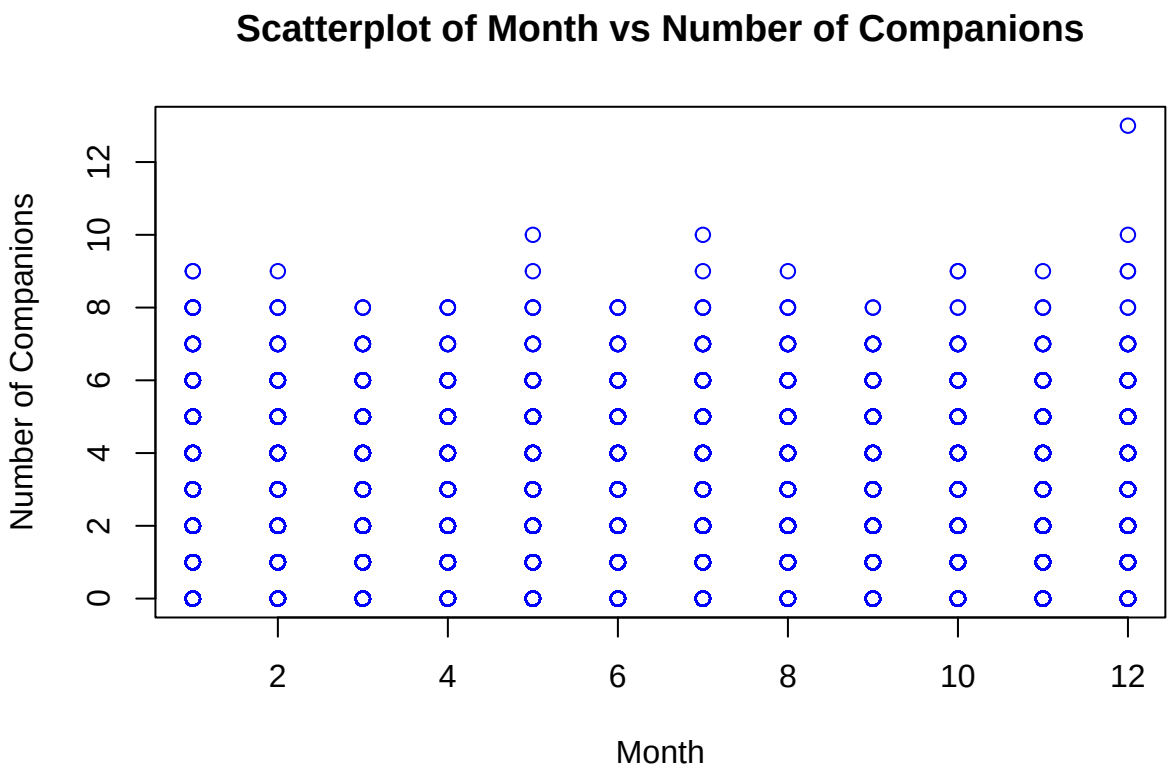

```
## 5        Ion Thruster               3073.7599   12-06-2023    15-03-2024
## 6          Warp Drive               1136.1619   13-04-2023    16-02-2025
##   SpecialRequests LoyaltyProgramMember Month CustomerSatisfactionScore
## 1           Other                    No     9                       105
## 2           Other                    No     3                       102
## 3            None                   Yes     5                       100
## 4            None                    No     4                       108
## 5    Special Meal                    No     6                        97
## 6           Other                    No     4                       105
##   Month_log
## 1  2.197225
## 2  1.098612
## 3  1.609438
## 4  1.386294
## 5  1.791759
## 6  1.386294
```

4. Scatterplot and Histogram:

```
# Scatterplot for two quantitative variables
plot(ITCS_data$Month, ITCS_data$NumberofCompanions,
     main = "Scatterplot of Month vs Number of Companions",
     xlab = "Month", ylab = "Number of Companions", col = "blue",
     xlim = range(na.omit(ITCS_data$Month)))
```



#Creating a Histogram

```r
hist(ITCS_data$CustomerSatisfactionScore,
     main = "Histogram of Customer Satisfaction Score",
     col = "blue",
     xlab = "Customer Satisfaction Score",
     ylab = "Frequency")
```