# FML-Assignment1

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#### 2024-02-04

#### 1. Dataset import:

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

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

##		Aσe	Gender	Occupation	Trav	zel Class		Des	stinat	ion	
##	1	_	Female	Colonist	114	Business			liese 5		
##	2	22	Male	Tourist		Economy					
##	3			Businessperson		Luxury		Alpha Centauri Alpha Centauri			
##	4		Female	Colonist		Economy		Lalande 21185			
##	5	42	Male	Explorer	Luxury Exotic Destination 10						
	6	30	Male	Other		Economy		200011	Tau Ce		
##		Star.System Distance.to.DestinationLight.Years.									
##	1	Cunningham Mountains 1.09									
##		8								)	
##	3	Anna Port 0.37								7	
##	4	Henry Ville 0.32								2	
##	5	Graves Mall 6.17								7	
##	6	Vazquez Tunnel 10.51							1		
##		Duration.of.StayEarth.Days. NumberofCompanions Purpose.of.Travel									
##	1				11			5		Tourism	
##	2				23			0		Research	
##	3				4			1		Tourism	
##	4				23			1		Tourism	
##	5 42 1					1	Colonization				
##	6				60			1		onization	
##		Tran	nsportat	tion.Type Price.	.Gal			-		_	
##	1		Wa	arp Drive			3.9493		9-2023	07-01-2025	
##	_			c Sailing			3.4693		3-2023		
	3			Thruster			3.7459		5-2022		
##	4		Wa	arp Drive				) 13-04			
##	5			Thruster				9 12-06			
##	6			arp Drive			5.1619		1-2023		
##		Spec	SpecialRequests LoyaltyProgramMember Month CustomerSatisfactionScore								
##	_		-	Other		No	9			105	
	2		(	Other		No	3			102	
##	3			None		Yes	5			100	

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

#### ${\it 2. Printing-Descriptive \ Statistics:}$

```
# 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)</pre>
# Print or visualize the transformed data
head(ITCS_data)
```

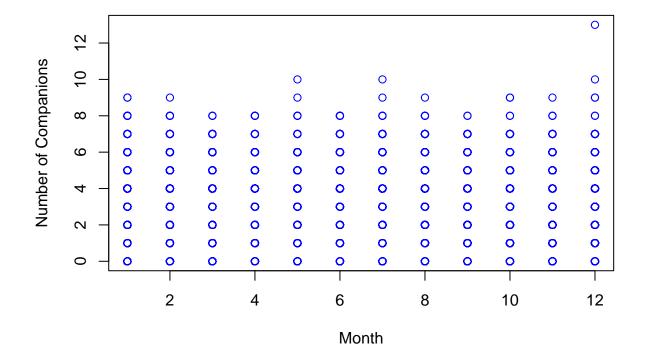
##		Age	Gender	Occupation	Trave	1.Class		Des	stinat:	ion
##	1	1 14 Female Colonist Business Gliese 581						581		
##	2	22 Male Tourist Economy Alpha Centauri							ıri	
##	3	62	Female	Businessperson		Luxury		Alpha	Centa	ıri
##	4	21	21 Female Colonist Economy Lalande 21185							185
##	5	42	Male	Explorer		Luxury	Exoti	c Destir	nation	10
##	6	30	Male	Other		Economy			Tau C	eti
##		Star.System Distance.to.DestinationLight.Years.								
##	1	1 Cunningham Mountains 1.09								9
##	2	2 Hayes Trace 5.70							)	
##	3	Anna Port 0.37								7
##	4	Henry Ville 0.32								
##	5	Graves Mall 6.17								7
##	6	Vazquez Tunnel 10.51								1
##		Duration.of.StayEarth.Days. NumberofCompanions Purpose.of.Travel								
##	1				11			5		Tourism
##	2	23 0 Research							Research	
##	3	4 1 Tourism							Tourism	
##	4	e 23 1 Tourism						Tourism		
##	5	42 1 Colonization							onization	
##	6				60			1	Col	onization
##		Tran	nsportat	tion.Type Price	Gala	ctic.Cre	edits.	Booking	g.Date	DepartureDate
##	1		Wa	arp Drive		828	3.9493	17-09	9-2023	07-01-2025
##	2		Sola	r Sailing		488	3.4691	31-03	3-2023	26-12-2025
##	3		Ion	Thruster		183	3.7459	19-05		
##	4		Wa	arp Drive		358	3.7540	13-04	1-2023	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
                Other
## 1
                                                 9
                                          No
                                                 3
## 2
                Other
                                          No
                                                                            102
## 3
                 None
                                                 5
                                                                           100
                                         Yes
## 4
                 None
                                          No
                                                 4
                                                                            108
## 5
                                                 6
        Special Meal
                                          No
                                                                            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
```

### ${\it 4. \,\, Scatterplot \,\, and \,\, Histogram:}$

```
# 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)))
```

## **Scatterplot of Month vs Number of Companions**



#Creating a Histogram

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

## **Histogram of Customer Satisfaction Score**

