

## 2. Categorical Data

ID	Gender	Education	Occupation
1	Male	Graduate	Engineer
2	Female	Undergrad	Teacher
3	Male	High School	Doctor
4	Female	Graduate	Lawyer
5	Male	Undergrad	Artist

- ☐ Create a bar plot showing the count of each Gender.
- ☐ Plot a pie chart representing the distribution of Education levels.
- ☐ Create a stacked bar plot showing the count of each Occupation by Gender.
- ☐ Generate a mosaic plot to visualize the association between Education and Occupation.
- ☐ Create a grouped bar plot showing counts of Gender across different Education levels.

R Program :-

# Data

```
id <- c(1, 2, 3, 4, 5)
```

```
gender <- c("Male", "Female", "Male", "Female", "Male")
```

```
education <- c("Graduate", "Undergrad", "High School", "Graduate", "Undergrad")
```

```
occupation <- c("Engineer", "Teacher", "Doctor", "Lawyer", "Artist")
```

# Bar plot showing the count of each Gender

```
gender_counts <- table(gender)
```

```
barplot(gender_counts, main="Count of each Gender", xlab="Gender", ylab="Count")
```

# Pie chart representing the distribution of Education levels

```
education_counts <- table(education)
```

```
pie(education_counts, main="Distribution of Education Levels", labels=names(education_counts))
```

# Stacked bar plot showing the count of each Occupation by Gender

```
occupation_by_gender <- table(occupation, gender)
```

```
barplot(occupation_by_gender, main="Count of Occupation by Gender",
```

```
       xlab="Occupation", ylab="Count", col=c("orange", "pink"),  
       legend=rownames(occupation_by_gender))
```

# Mosaic plot to visualize the association between Education and Occupation

```
mosaicplot(table(education, occupation), main="Education vs Occupation", color=TRUE)
```

# Grouped bar plot showing counts of Gender across different Education levels

```
gender_by_education <- table(gender, education)
```

```
barplot(gender_by_education, beside=TRUE, main="Gender Counts by Education Level",
```

```
       xlab="Education Level", ylab="Count", col=c("blue", "pink"),
```

```
       legend=rownames(gender_by_education))
```





