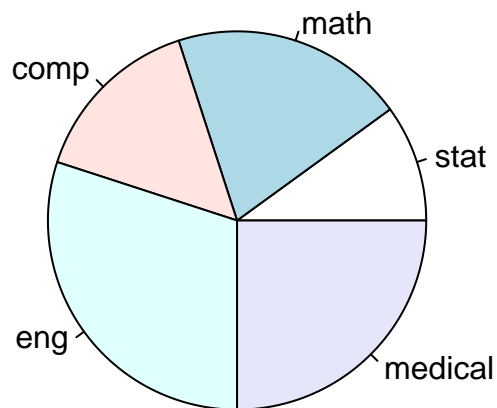


piechart.R

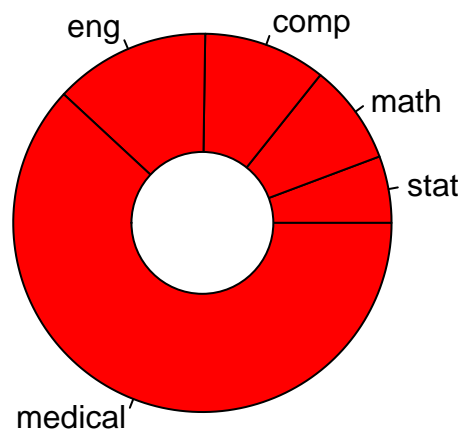
macbook

2025-03-02

```
#####  
categories=c('stat', 'math', 'comp', 'eng', 'medical')  
male_counts <- c(10, 20, 15, 30, 25)  
female_counts <- c(12, 18, 22, 28, 130)  
  
colors <- c("yellow", "blue", "green", "purple", "orange")  
  
pie(male_counts, labels = categories)
```



```
pie(female_counts, labels = categories, col='red')  
symbols(0, 0, circles = 0.3, inches = FALSE, add = TRUE, bg = "white")
```



```
#####

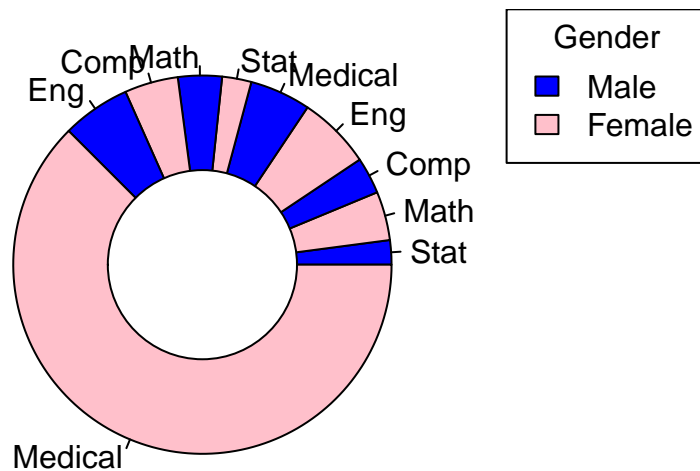
categories <- c('Stat', 'Math', 'Comp', 'Eng', 'Medical')
male_counts <- c(10, 20, 15, 30, 25)
female_counts <- c(12, 18, 22, 28, 300)

counts <- c(male_counts, female_counts)
genders <- rep(c("Male", "Female"), each = length(categories))
labels <- rep(categories, 2)
colors <- rep(c("blue", "pink"), times = length(categories))

pie(counts, labels = labels, col = colors)

symbols(0, 0, circles = 0.4, inches = FALSE, add = TRUE, bg = "white")

legend("topright", legend = c("Male", "Female"), fill = c("blue", "pink"), title = "Gender")
```



```
#####

gender_category_table <- matrix(c(male_counts, female_counts),
                                nrow = 2, byrow = TRUE,
                                dimnames = list(Gender = c("Male", "Female"),
                                                  Category = categories))

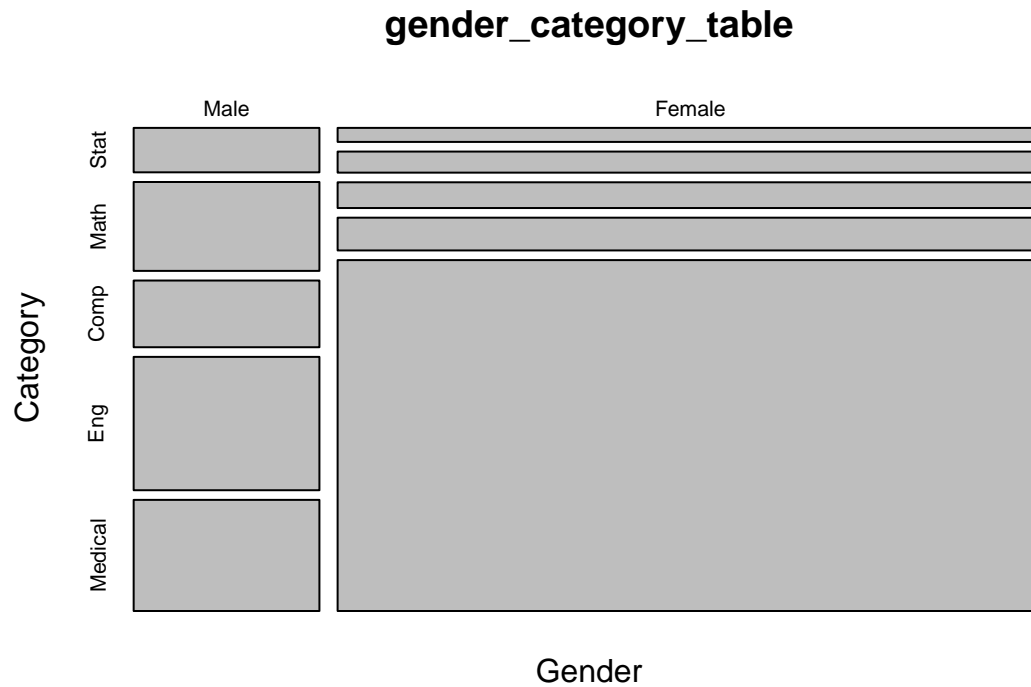
gender_category_table
```

```
##           Category
## Gender   Stat Math Comp Eng Medical
##   Male    10   20  15  30    25
##   Female  12   18  22  28   300
```

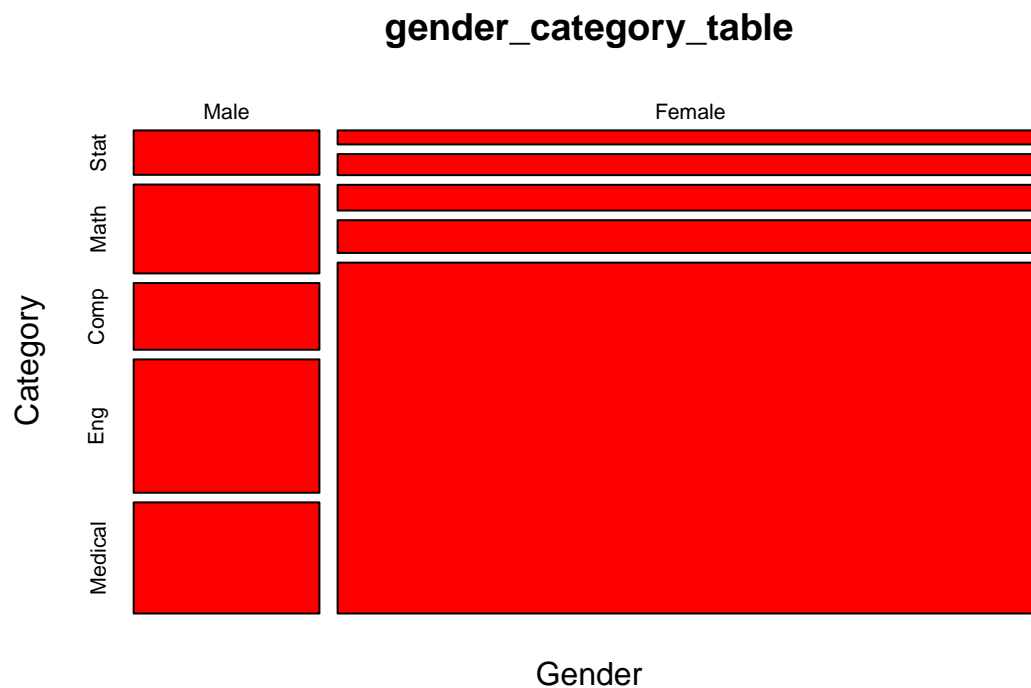
```
cbind(c(1,1,1,2,2,2), c(1,2,3,1,2,4))
```

```
##      [,1] [,2]
## [1,]   1   1
## [2,]   1   2
## [3,]   1   3
## [4,]   2   1
## [5,]   2   2
## [6,]   2   4
```

```
#### Mosaic Plot ####
mosaicplot(gender_category_table)
```



```
mosaicplot(gender_category_table, color = 'red')
```



```
df_gender_category_table <- data.frame(counts=c(male_counts, female_counts),
                                         Gender = genders,
                                         Category = rep(categories, 2))

df_gender_category_table
```

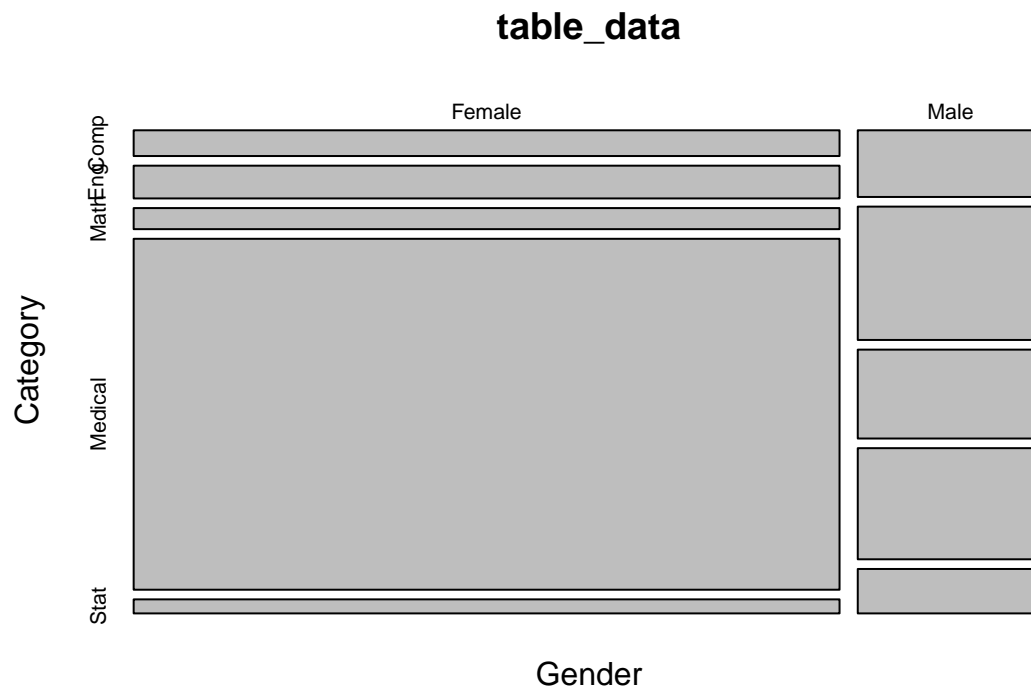
```
##      counts Gender Category
```

```
## 1      10   Male   Stat
## 2      20   Male   Math
## 3      15   Male   Comp
## 4      30   Male   Eng
## 5      25   Male  Medical
## 6      12  Female  Stat
## 7      18  Female  Math
## 8      22  Female  Comp
## 9      28  Female   Eng
## 10     300 Female  Medical
```

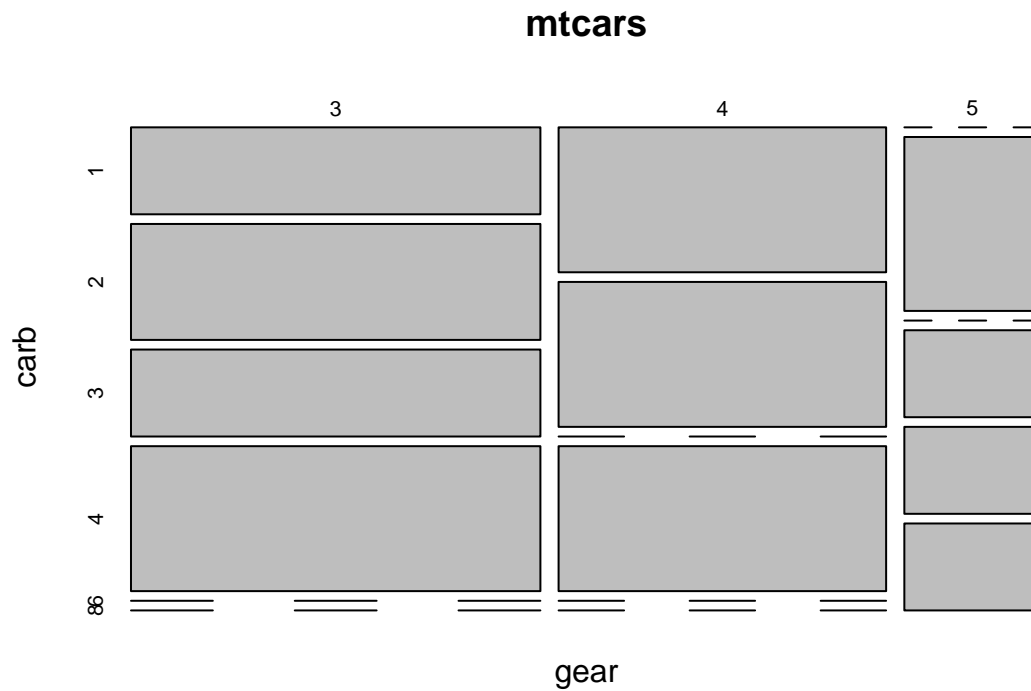
```
table_data <- xtabs(counts ~ Gender + Category, data = df_gender_category_table)
table_data
```

```
##           Category
## Gender   Comp Eng Math Medical Stat
## Female    22  28  18    300   12
## Male      15  30  20     25   10
```

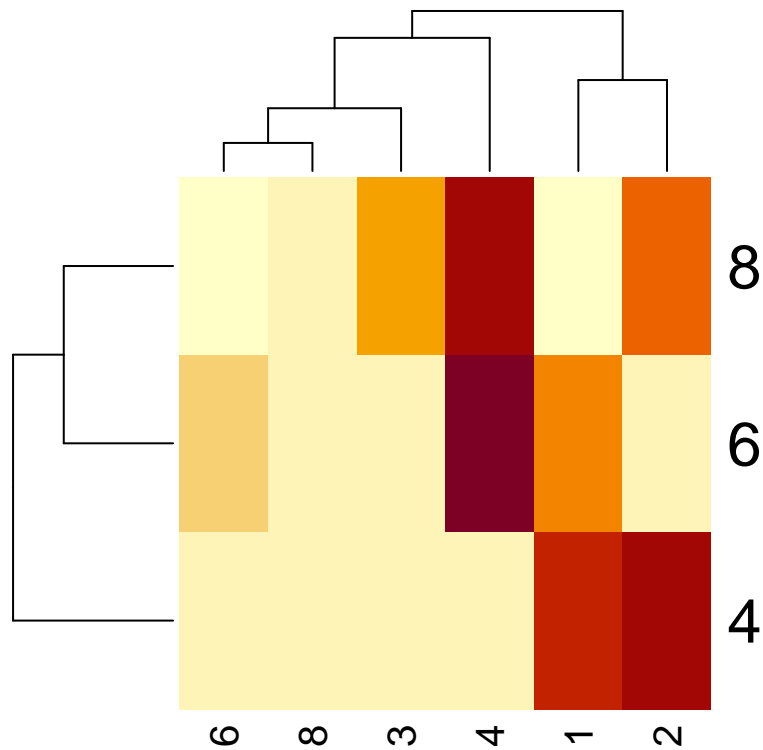
```
mosaicplot( table_data)
```



```
data("mtcars")
mosaicplot(~ gear + carb, data = mtcars)
```



```
##### heatmap
data <- table(mtcars$cyl, mtcars$carb)
heatmap(as.matrix(data))
```

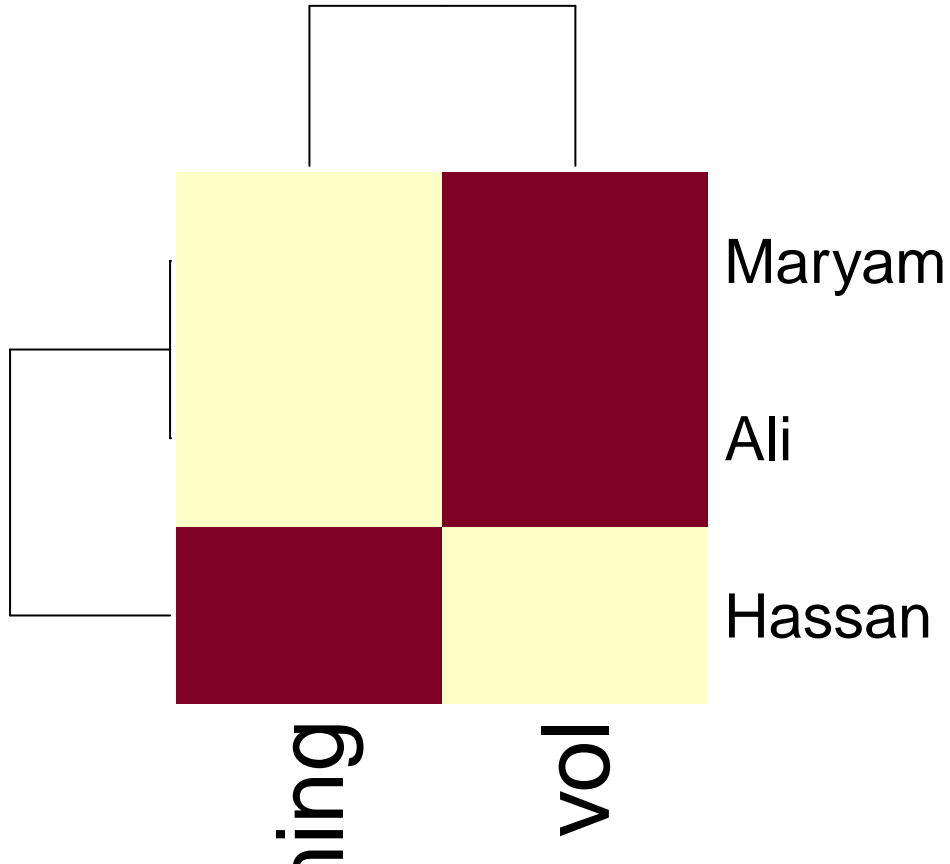


```
#### heatmap ####
df <- data.frame(Category1 = c("Ali", "Maryam", "Hassan"),
                  Category2 = c("vol", "vol", "swimming"))
```

```
data_table <- table(df$Category1, df$Category2)
data_table
```

```
##
##      swimming vol
##  Ali          0  1
##  Hassan       1  0
##  Maryam       0  1
```

```
heatmap(as.matrix(data_table))
```



```
df <- data.frame(Category1 = c("A", "B", "C", "B", "C"),
                  Category2 = c("x", "y", "y", "z", "y"))
df
```

```
##   Category1 Category2
## 1         A         x
## 2         B         y
## 3         C         y
## 4         B         z
## 5         C         y
```

```
data_table <- table(df$Category1, df$Category2)
```

```
heatmap(as.matrix(data_table))
```

