Using R to Plot Histograms

1. R has many built-in data sets. The `mtcars` data set includes information extracted from the 1974 *Motor Trend* US magazine, including fuel consumption and 10 aspects of automobile design and performance for 32 automobiles (1973–74 models). First, let's look at the data:

```
> mtcars
```

Next, let's use plot the 'number of gears' data in a histogram.

```
> hist(mtcars$gear, probability=TRUE, breaks=c(2.5,3.5,4.5,5.5), main="Motor Trend Car Data",
  xlab="Number of Gears", ylab="Percent", ylim=c(0,0.5))
```
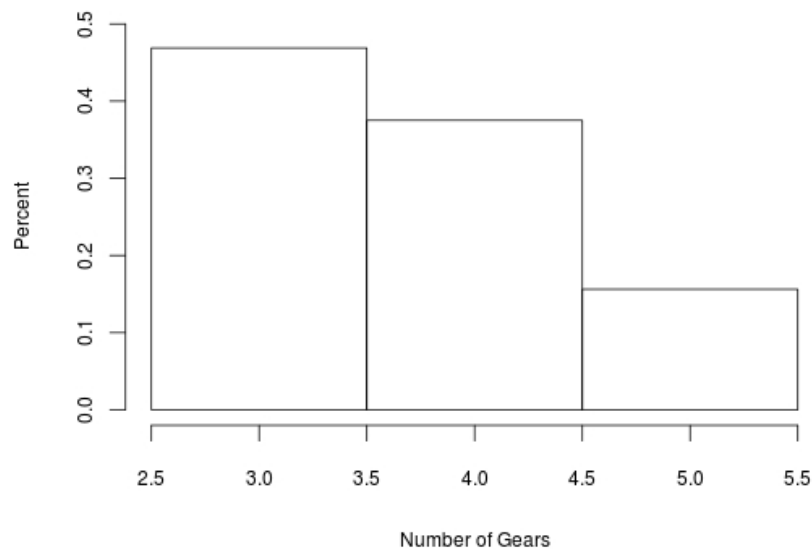

Figure 1: Histogram of Number of Gears based on *Motor Trend* car data

2. Use R to create a histogram of `mtcars$mpg`, the mileage data for several 1973 car models. To make your plot change the `xlab` and `ylab` values from the ones in the previous exercise and delete the `breaks` option.

```
> hist(mtcars$mpg, probability=TRUE, main="Motor Trend Car Data",   xlab="Miles per Gallon",
ylab="Percent", ylim=c(0,0.5))
```

3. Use R to create a histogram of `mtcars$am`, the transmission types for several 1973 car models.

```
> hist(mtcars$am, probability=TRUE, main="Motor Trend Car Data", axes=FALSE,
  xlab="Number of Gears", ylab="Percent")

> axis(1, at=0:1, lab=c("Automatic", "Manual"))

> axis(2, seq(0, 0.6, by=0.10))
```

4. Pie charts are another way to illustrate data distributions. These are not recommended by some texts or in the R documentation. Here is an example of how to create them, however.

```
> slices <- c(10, 12,4, 16, 8)

> mylabels <- c("US", "UK", "Australia", "Germany", "France")

> pie(slices, labels = mylabels, main="Pie Chart of Countries")
```