# BACS HW1 106022113

## 1. 5th element of original list

```
customers <- read.table(file = "customers.txt", header = TRUE)
ages <- customers$age
ages[5]
```

```
## [1] 45
```

## 2. 5th lowest age

```
sorted_ages <- sort(ages)
sorted_ages[5]
```

```
## [1] 19
```

## 3. Extract 5 lowest ages

```
sorted_ages[1:5]
```

```
## [1] 18 19 19 19 19
```

## 4. 5 highest ages

```
sorted_ages2 <- sort(ages, decreasing = TRUE)
sorted_ages2[1:5]
```

```
## [1] 85 83 82 82 81
```

## 5. Average

```
mean(ages)
```

```
## [1] 46.80702
```

## 6. Standard Deviation

```
sd(ages)
```

```
## [1] 16.3698
```

## 7. Difference between each age and mean age

```
age_diff <- ages-mean(ages)
```

## 8. Average for "age_diff"

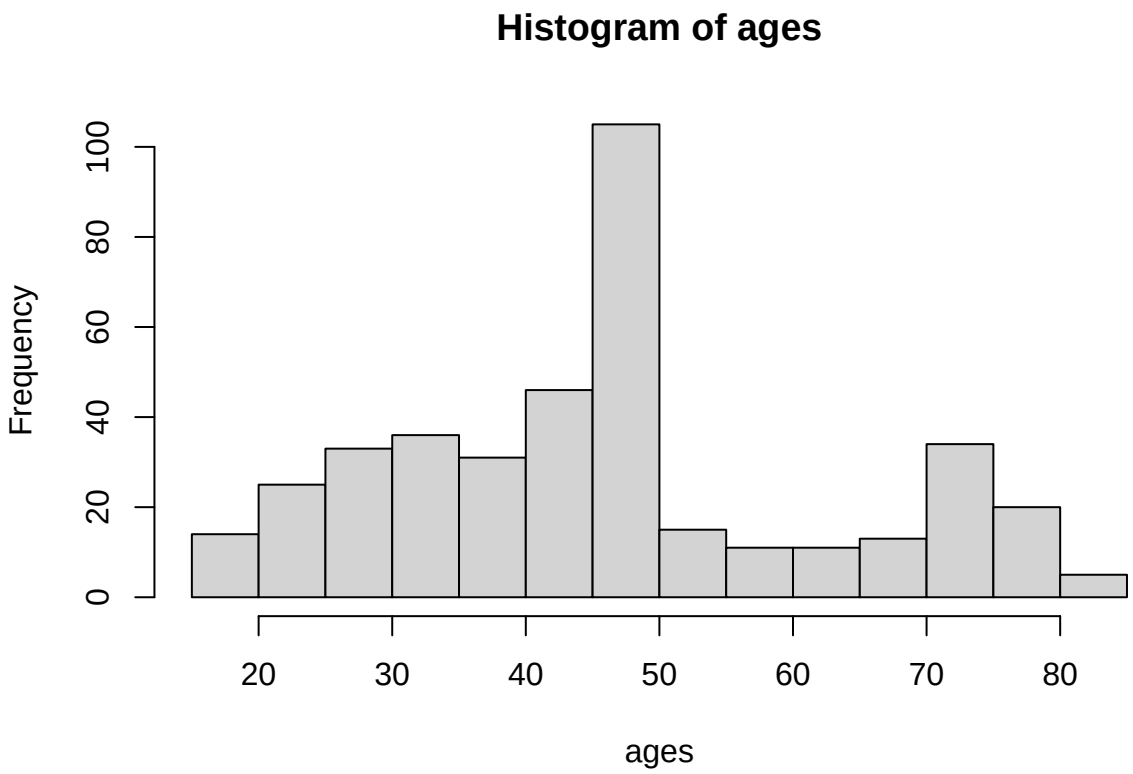
```
mean(age_diff)
```

```
## [1] -1.623275e-15
```

## 9. Visualization : 1.hist 2. Density 3.boxplot+stripchart

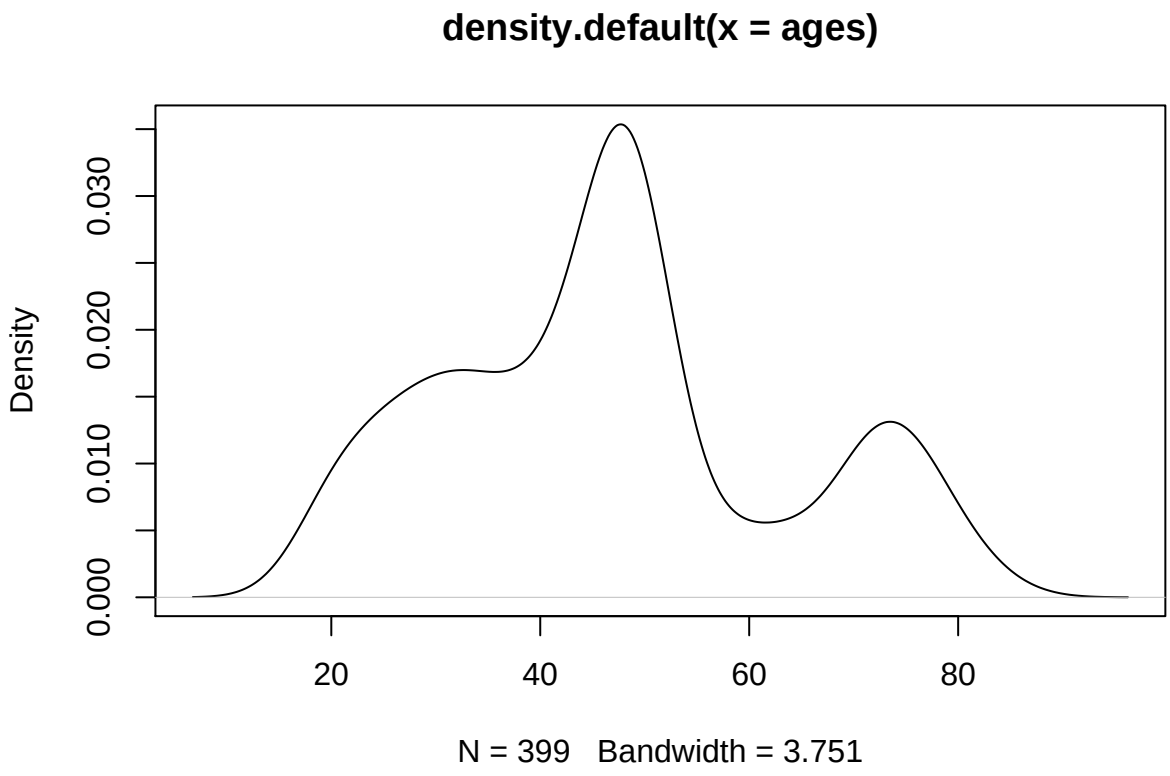
### 1. Histogram

```
hist(ages)
```



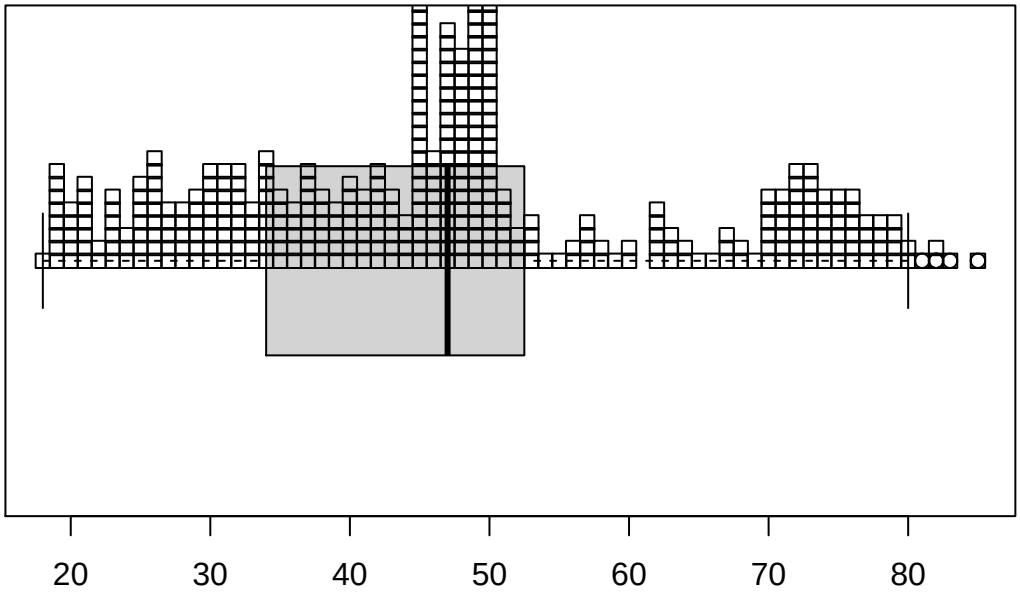

**2. Density Plot**

```
plot(density(ages))
```




**3. Boxplot+Stripchart**

```
boxplot(ages,horizontal = TRUE)
stripchart(ages,method = "stack",add = TRUE)
```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