Introduction to Data Science: Stat-lab 9

INSTRUCTIONS:

Type each one of the R commands in this unit on the space provided below.

You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

After you are done click the **Knit PDF** or **Knit HTML** button. A document will be generated that includes both content as well as the output of any embedded R code chunks within the document.

Go to File –> Save. Name your file.

Upload the file to the Moodle site by using the link provided.

R commands:

```
MyMode = function(myVector){
  return(myVector)
}
tinyData = c(1,2,1,2,3,3,3,4,5,4,5)
tinyData
```

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

```
MyMode(tinyData)
```

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

```
MyMode = function(myVector) {
  uniqueValues = unique(myVector)
  return(uniqueValues)
}
MyMode(tinyData)
```

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

```
MyMode(tinyData)
```

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

```
MyMode = function(myVector) {
  uniqueValues = unique(myVector)
  uniqueCounts = tabulate(myVector)
  return(uniqueCounts)
```

```
}
MyMode(tinyData)
```

```
## [1] 2 2 3 2 2
```

```
MyMode = function(myVector) {
  uniqueValues = unique(myVector)
  uniqueCounts = tabulate(myVector)
  return(uniqueValues[which.max(uniqueCounts)])
}
tinyData
```

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

```
MyMode(tinyData)
```

```
## [1] 3
```

```
tinyData = c(tinyData,5,5,5)
tinyData
```

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

```
MyMode(tinyData)
```

```
## [1] 5
```

```
tinyData = c(tinyData,1,1,1)
tinyData
```

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

```
MyMode(tinyData)
```

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

```
tinyData = c(tinyData,9,9,9,9,9,9,9)
MyMode(tinyData)
```

```
## [1] NA
```

```
tabulate(tinyData)
```

```
## [1] 5 2 3 2 5 0 0 0 7
```

```
unique(tinyData)
```

```
## [1] 1 2 3 4 5 9
```

```
MyMode = function(myVector) {
  uniqueValues = unique(myVector)
  uniqueCounts = tabulate(match(myVector,uniqueValues))
  return(uniqueValues[which.max(uniqueCounts)])
}
MyMode(tinyData)
```

```
## [1] 9
```

```
library(modeest)
mfv(tinyData)
```

```
## [1] 9
```

```r
multiData = c(1,5,7,7,9,9,10)
mfv(multiData)
```

```
## [1] 7 9
```

```r
MyMode(multiData)
```

```
## [1] 7
```