## INDIAN INSTITUTE OF INFORMATION TECHNOLOGY

### **GUWAHATI**

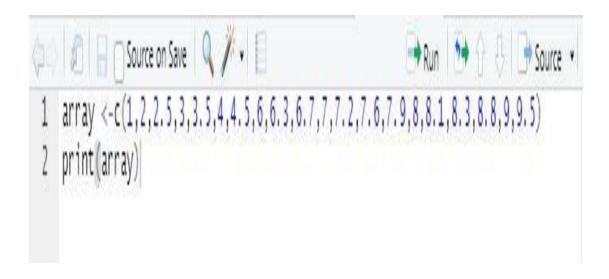


# Data Analytics Lab, M. Tech 3rd Semester CS634 Lab report

Assignment:2

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## 1. Create an array consisting of 20 real values

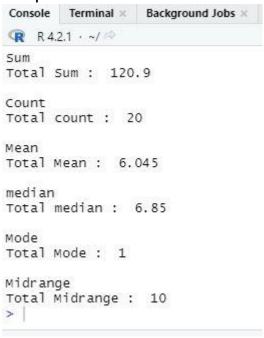


#### Output:

```
> source("~/arrayValue.R")
[1] 1.0 2.0 2.5 3.0 3.5 4.0 4.5 6.0 6.3 6.7 7.0 7.2 7.6 7.9 8.0 8.1 8.3 8.8 9.0
[20] 9.5
>
```

2. Find sum, count, mean, median, mode, and mid-range

```
Run P+ G 5
1 array <-c(1,2,2.5,3,3.5,4,4.5,6,6.3,6.7,7,7.2,7.6,7.9,8,8.1,8.3,8.8,9,9
  3 cat("\n\nSum")
  4 cat("\nTotal Sum : ",sum(array))
  6 cat("\n\nCount")
  7 cat("\nTotal count : ",length(array))
  8
9 cat("\n\nMean")
10 cat("\nTotal Mean : ",mean(array))
 11
12 cat("\n\nmedian")
13 cat("\nTotal median : ",median(array))
14
15 cat("\n\nMode")
 16 - get_mode <-function(v) {
      unique_value <-unique(v)
 17
       unique_value[which.max(tabulate(match(v,unique_value)))]
18
19 - }
 20 cat("\nTotal Mode : ",get_mode(array))
 21
 22 cat("\n\nMidrange")
```



# 3. Divide the array into 4 subgroups

```
| array <-c(1,2,2.5,3,3.5,4,4.5,6,6.3,6.7,7,7.2,7.6,7.9,8,8.1,8.3,8.8,9,9.5) | s <- split(array,ceiling(seq_along(array)/5)) | print(s)|
```

4. Find sum, count, mean, median, mode, and mid-range of sub-groups

```
Source on Save Q / • [
                                                                 Run 😘 🖯 🖰 Source 🕶
 1 array <-c(1,2,2.5,3,3.5,4,4.5,6,6.3,6.7,7,7.2,7.6,7.9,8,8.1,8.3,8.8,9,9.5)
 2
 3 * applyToSubgroup<-function(x){</pre>
 4 ▼ modeOfArray<-function(v){</pre>
 5
          unique_value <- unique(v)
          unique_value[which.max(tabulate(match(v, unique_value)))]
 6
 8 * midrangeOfArray<-function(y){</pre>
          (\max(y)+\min(y))/2
 9
10 -
       print(paste("The sum of array is ", sum(x)))
print(paste("The count of array is ", length(x)))
print(paste("The mean of array is ", mean(x)))
print(paste("The median of array is ", median(x)))
11
12
13
14
       print(paste("The mode of array is ", modeOfArray(x)))
15
       print(paste("The midrange of array is ", midrangeOfArray(x)))
16
17
       print(" ")
18 - }
19 splitted_list<-split(array, ceiling(seq_along(array)/5))</pre>
20 print(splitted_list)
21 cStep<-1
22 - for(x in splitted_list){
23 print(paste("For subgroup ", cStep))
      applyToSubgroup(x)
24
25
      cStep<-cStep+1
26 - }
27
```

```
Console Terminal × Background Jobs ×
[1] "For subgroup 1"
[1] "The sum of array is
[1] "The count of array is 5"
[1] "The mean of array is 2.4"
[1] "The median of array is 2.5"
[1] "The mode of array is 1"
[1] "The mode of array is 1
[1] "The midrange of array is 2.25"
[1]
[1] "For subgroup 2"
[1] "The sum of array is 27.5"
[1] The sum of array is 27.5
[1] "The count of array is 5"
[1] "The mean of array is 5.5"
[1] "The median of array is 6"
[1] "The mode of array is 4"
[1] "The midrange of array is 5.35"
[1] " "
[1]
[1] "For subgroup 3"
[1] "The sum of array is 37.7"
[1] "The sum of array is 37.7
[1] "The count of array is 5"
[1] "The mean of array is 7.54"
[1] "The median of array is 7.6"
[1] "The mode of array is 7"
[1] "The midrange of array is 7.5"
[1]
[1]
The sum of array is 43.7"
[1] "The count of array is 5"
[1] "The mean of array is 8.74"
[1] "The median of array is 6"
[1] "The mode of
        "The median of array is 8.8"
       "The median of array is 8.1"
       "The midrange of array is 8.8"
[1]
[1]
>
```

# 5. Find distributive measures and algebraic measures

```
> source("~/measure.R")

Distributed Measures
Total Count : 20
Total Sum : 120.9

Algebraic Measures
Overall Mean: 6.045
>
```