INTRODUCTION TO R PROGRAMMING

Rootkit

2024-11-06

Data Structures

```
## [1] 1 0 0 1 1 0
```

```
## [1] 90
```

```
## [1] 0.000000 6.283185
```

```
## [1] 6.283185
```

```
## [1] 0
```

```
## [1] 3.141593
```

```
## [1] 282.7433
```

##looping with `rep` function what are tail and head

```
##  [1] 0 1 2 3 4 5 6 7 8 9
```

```
##  [1]  91  92  93  94  95  96  97  98  99 100
```

```
## [1]  96  97  98  99 100
```

```
##  [1] 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1
```

```
##  [1] 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1
```

##Probabilities Random generation

```
## [1] 62
```

using `table()`

```
## y
##   0   1
##  62 138
```

proportions: `prop.table()` is applied on `table()`

```
## y
##    0    1
## 0.31 0.69
```

to get count we use `sum` and for the proportion we use `mean`

```
## [1] 62
```

```
## [1] 0.31
```

In summary, `table()` can give us the count of all element in table format and `prop.table()` gives us proportions for each element and it have to be applied on `table()`

Mimicking the LUDO game

```
## [1] 6
```

##Matrix

```
##      [,1] [,2] [,3] [,4] [,5] [,6]
## [1,]    0    0    0    0    0    0
## [2,]    0    0    0    0    0    0
## [3,]    0    0    0    0    0    0
## [4,]    0    0    0    0    0    0
## [5,]    0    0    0    0    0    0
```

1 0 0 1 0 1 1 1 0 0 1 1

$$\begin{pmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 1 \end{pmatrix}$$

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    0    0    1
## [2,]    0    1    1    1
## [3,]    0    0    1    1
```