An Introduction to looping functions in R

Day 3

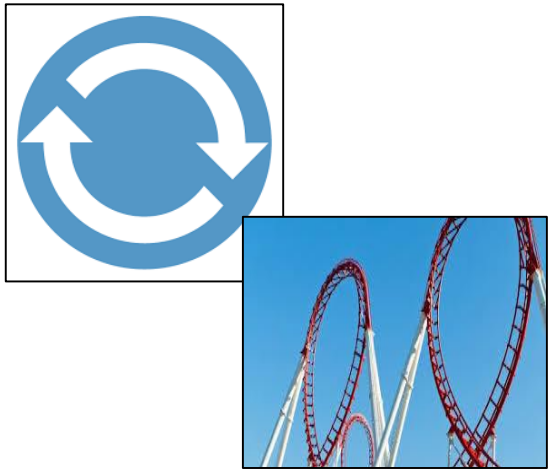
Agenda – Day 3

- An overview of loop functions in R
- Import loop functions in R
    1. An introduction to apply()
    2. An introduction to sapply()
    3. An introduction to tapply()

An overview of loop functions in R

- Loop functions are very powerful functions in R language
- Loop functions help us to do lot of work in very small amount of space
- Few important loop functions are:

1. apply ()
2. sapply ()
3. tapply ()



An introduction to apply()

- apply() function pertains to the R base package
- apply() function helps us to apply a function over the margin of arrays
- apply() function has three arguments/parameters as shown below

Syntax:

```
apply_func =  apply ( X, MARGIN, FUN )
```

Where :

- X is a data frame;
- MARGIN is a variable defining how the function has to be applied: when MARGIN=1, it applies over rows, whereas with MARGIN=2, it works over columns
- FUN, is a function that you want to apply to the data. It can be any R function, including a User Defined Function (UDF)

An introduction to sapply()

- sapply() function pertains to the R base package
- sapply() function helps us to apply a function over the columns
- sapply() function has two arguments/parameters as shown below

Syntax:

```
apply_func =  sapply ( X , FUN )
```

Where :

- X is a data frame;
- FUN, is a function that you want to apply to the data. It can be any R function, including a User Defined Function (UDF)

An introduction to tapply()

- tapply() function pertains to the R base package
- tapply() function helps us to summarize a numeric variable at different levels of factor/categorical variable
- tapply() function has three arguments/parameters as shown below

Syntax:

```
tapply_func =  tapply ( NUM , FACT, FUN )
```

Where :

- NUM is a variable that has to be summarized
- FACT is a categorical variable based on which the summarization has to happen
- FUN, is a function that you want to apply to the data. It can be any R function, including a User Defined Function (UDF)