

## **Ex 2 : IOT based healthcare application using Generalized Linear model, Random forest and Decision trees**

Implement a IOT based healthcare application in R, using Generalized Linear model, Random forest model and Decision trees, on the dataset taken from Kaggle: <https://www.kaggle.com/datasets/nareshbhat/health-care-data-set-on-heart-attack-possibility> , titled “Health care: Heart attack possibility”. This dataset predicts the possibility presence of heart attack in a person and has attributes such as resting BP, cholesterol, age, sex, chest pain, fasting blood sugar, old peak etc. Utilise packages like Rplot, RColorBrewer, Rattle and randomForest to perform the following:

1. Import the above mentioned packages
2. Download and read the dataset from Kaggle
3. View the statistics of the variables in the dataset using function “summary”
4. Analyse the data, specific to resting blood pressure
5. Using the “cor” function, find the correlation between resting blood pressure and age
6. Construct a Logistic regression model using GLM and view the output plots
7. Encode the target values into categorical values
8. Split the dataset into training and testing data in the ratio 70 : 30
9. Construct a decision tree model
10. Target variable is categorised based on resting blood pressure, serum cholesterol and maximum heart rate achieved
11. Plot the decision tree and view the output
12. Devise a Random forest model based on the relationship between resting blood pressure, old peak and chest pain type
13. View the confusion matrix and importance of each predictor