**Predict Click Through Rate(CTR) of an Email Campaign**

**Objective**

**To build a machine learning-based approach to predict the CTR of an email campaign.**

**Approach**

1. Data Analysis : Read and understand the problem and write down the steps through which task will be accomplish.
2. **Data Preprocessing** : Check for null values if exists in the data and check for the structure, shape and datatypes of both datasets given.
3. Visualisation : Visualise the relationship between target feature with other features.
4. Interpretation : Interpretation is important on every step which assist in further accomplishment of tasks.
5. **Feature Engineering** : Convert the categorical feature into numerical feature (here we adopt dummy variable technique). Label Encoder technique has not been used due to non linear values in a features so **dummy variable technique** has been adopted.
6. Feature Selection : Selection of those features which are correlated with target feature with the help of score method.
7. Data Splitting : Use of 60:40 data splitting technique has been adopted for train dataset to build and evaluate the model before implementing it on Final test dataset given (60:40 ratio is adopt according to the ratio to which train and test data has been given).
8. **Model Building** : Apply different regression models and evaluating the model taking **R2 score as evaluation parameter** with respect to the train data.
9. Cross-Validation : Take use of cross-validation technique for model selection.

**Conclusion**

We interpret that Random Forest Regressor is the best model for the given dataset for the **prediction of CTR of the email campaign.**