**Logistic Regression**

Task: A bank would like to analysis its customer records to identify whether a customer would decide to end his/her business with the bank. So the bank can reach out to the customers who have the potential of leaving, and offer them better rates and product, in order to extend their business. Given the customer record (description listed below), build a logistic regression model to predict whether a customer would stay with or leave the bank.

Data Description:

1. RowNumber, data entry index
2. CustomerId, customer ID
3. Surname, customer name
4. CreditScore, credit score
5. Geography, country where the customer resides
6. Gender, male/female
7. Age, customer age
8. Tenure, time with the bank
9. Balance, amount balance
10. NumOfProducts, financial product purchased at the bank
11. HasCrCard, does the customer have credit card, 1-yes, 0-no
12. IsActiveMember, is the customer a active member, 1-yes, 0-no
13. EstimatedSalary, customer’s estimated yearly salary
14. Exited, did the customer choose to leave the bank? 1-yes, 0-no

Notes:

Instead of using the full feature list, one can use features with significant importance. For utilizing categorical data such as “country”, one should convert it to number, i.e. ‘Afghanistan’ = 1, ‘Albania’ = 2, ‘American Samoa’ = 3 ...