Linear Regression

1. Simple linear regression between Price and Sq. Feet
    - Coefficient is found to be 277, which tells us that the average value of a house increases by $277 on average for each additional one square foot of size
    - RMSE is found to be $272,082 and the R^2 value is 0.50

2. Simple linear regression between Price and Bedrooms
    - Coefficient is found to be 126220, which tells us that the average value of a house increases by $126,220 on average for each additional bedroom
    - Intercept is 115856, indicates that, for houses within the range of bedrooms observed, $115,856 is the portion of the house price not explained by number of bedrooms
    - RMSE is $371,822 and the R^2 value is 0.07

3. Simple linear regression between Price and Bathrooms
    - Coefficient is found to be 250995, which tells us that the average value of a house increases by $ 250,995 on average for each additional bathroom
    - Intercept is 9112, indicates that, for houses within the range of bedrooms observed, $9,112 is the portion of the house price not explained by number of bathrooms
    - RMSE is $334,102 and the R^2 value is 0.25

4. Simple linear regression between Price and Floor
    - Coefficient is found to be 179992, which tells us that the average value of a house increases by $ 179,992on average for each additional floor
    - Intercept is 272454, indicates that, for houses within the range of bedrooms observed, $272,454 is the portion of the house price not explained by number of floors
    - RMSE is $376,773 and the R^2 value is 0.04

Multiple Linear Regression

Multiple linear regression between Price and Sq. Feet, Bedrooms, Bathroom, Floor

- RMSE value is $ 270,832
- R^2 value is 0.51

Logistic Regression

Bank Personal Loan Modelling dataset:

When a bank wants to offer a loan, the following factors are highly significant:

1. Annual income of the customer
2. Family size of the customer
3. Education Level. 1: Undergrad; 2: Graduate; 3: Advanced/Professional
4. Does the customer have a certificate of deposit (CD) account with the bank?
5. Does the customer use internet banking facilities?
6. Does the customer use a credit card issued by Universal Bank?

The following factors are also significant to some extent:

1. Avg. spending on credit cards per month
2. Does the customer have a securities account with the bank?

Attrition dataset:

The following factors highly affect attrition in employees:

1. Age of the employee
2. Marital status of the employee
3. Total number of companies the employee has worked for
4. Total number of years the employee has worked so far
5. Number of times training was conducted for this employee last year
6. Number of years since last promotion
7. Number of years under current manager

The following factors also affect attrition in employees:

1. Department in company
2. Field of education