This study was conducted on a dataset containing information of diabetes patients. The dataset was obtained from <http://ics.uci.edu>.

After careful observation was done on the dataset, I decided to prepare a machine learning model that would predict if a diabetes patience would be readmitted into the hospital or not.

I imported the necessary libraries and read the dataset. I began by cleaning the dataset which involved identifying the columns with empty rolls and outliers. Then, I proceeded to removing some columns where necessary and removing the outliers from the columns containing them. I also modified some columns such as age and readmitted columns in order to suit the purpose which I purposed.

After this, I performed feature engineering on the dataset. I applied OneHot Encoding for the non-ordinal data and Ordinal Encoding for my X data. Also I used Label Encoder for the Y data. Then I normalized the dataset with MinMaxScaler inorder to get m dataset fit into my models.

After I was done with the categorical data, I developed two models which are Logistic Regression Model and Support Vector Model. I start with the Logistic Regreesion. After training and testing my Logistic Regression model, it gives my an accuracy of 62.56%.

Also, I developed the Support Vector Model. After training and testing my model, it gives and accuracy of 79.56%.

Therefore, I decided to used the support vector model which I developed and train to predict if a patient will be readmitted into the hospital or not.

Below, my code is a visualization that can give a better information of the performance of the machine. Though time was not on my side to run it because it was taking a long time to load on my computer.