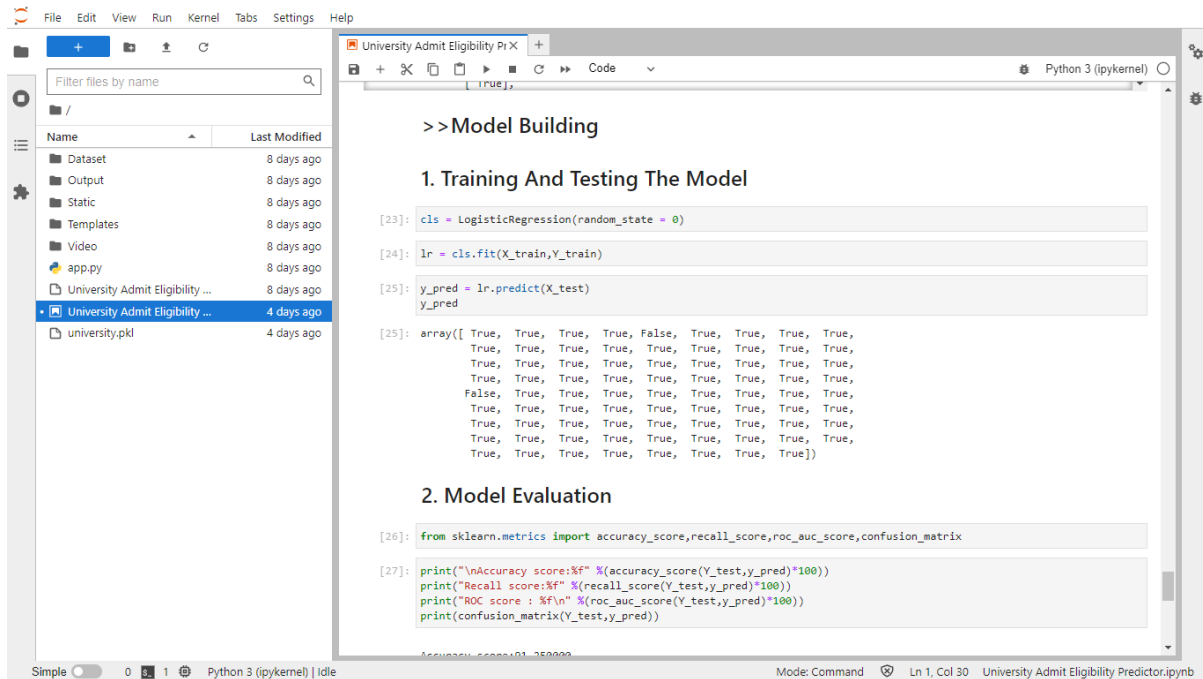# MODEL BUILDING

Training and Testing the Model

➢ After splitting the data into train and test, the data should be fed to an algorithm to build a model.

➢ There are several Machine learning algorithms to be used depending on the data you are going to process such as images, sound, text, and numerical values.

➢ Classification algorithms are Regression algorithms, etc. Here the Regression algorithm used.

➢ There are 4 types of methods such as

- ❖ Logistic Regression
- ❖ Decision Tree Classifier
- ❖ Random Forest Classifier
- ❖ KNN

Logistic Regression:

❖ Logistic Regression is used when the dependent variable (target) is categorical. For example,

- ❖ To predict whether a website is an untrusted SSL certificate (1) or (0)
- ❖ Whether the tumour is malignant (1) or not (0)

❖ Out of all the algorithms Logistic Regression got the highest accuracy, so let's build a model with Logistic regression.

❖ By using X_train and Y_train obtained above in the train_test_split section to train our decision tree regression model. Then using the fit method and passing the parameters as input.

❖ The algorithm from **Scikit** learn library to build the model for given input from splitted data.

❖ Once the model is trained, it's ready to make predictions. Then, using the predict method on the model and pass x_test as a parameter to get the output as y_pred.

❖ Notice that the prediction output is an array of real numbers corresponding to the input array.

Step-1:

➢ After splitting the data as X_train, X_test, Y_train, Y_test.

➢ Then, we need to train the data for further prediction.

➢ Import **sklearn.linear_model.logistic** package.

➢ Then use **fit ()** method to train the model.

➢ And then use **Predict ()** method to test created model.