

## Lab-6

i) Suppose there 20 binary observations whose target values are:

[1,0,0,1,0,0,1,0,0,1,1,0,0,0,0,1,0,1,0,1][1,0,0,1,0,0,1,1,0,0,0,0,1,0,1,0,1]

Suppose that your machine learning model returns prediction probabilities (`predict_proba()` in sklearn) of:

[0.886,0.375,0.174,0.817,0.574,0.319,0.812,0.314,0.098,0.741,0.847,0.202,0.31,0.073,0.179,0.917,0.64,0.388,0.116,0.72]

Write a function from scratch called `predict()` that accepts as input the following (in this exact order):

- a list of prediction probabilities (as a list)
- threshold value (as a float)

This function should compute the final predictions to be output by the model and return them as a list. If a prediction probability value is less than or equal to the threshold value, then the prediction is the negative case (i.e. 0). If a prediction probability value is greater than the threshold value, then the prediction is the positive case (i.e. 1).

(ii) Then write a function from scratch called `acc_score()` that accepts as input (in this exact order):

- a list of true labels
- a list of model predictions (use output list from prediction function `predict()`)

This function should calculate the model accuracy score using the true labels as compared to the predictions.

(iii) Get the accuracy from sklearn then compare accuracy with output from your function `acc_score()`.