MODEL BUILDING

MODEL EVALUATION

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Project Name	Project – Statistical Machine Learning Approaches to Liver Disease Prediction

Finally, we need to check to see how well our model is performing on the test data.

Evaluation Metrics:

accuracy_score of Random forest classification is

```
[57] from imblearn.over_sampling import SMOTE
     smote=SMOTE()

[58] x_train_smote,y_train_smote = smote.fit_resample(X_train,y_train)

[59] model1 = RandomForestClassifier(n_estimators=20)
     model1.fit(x_train_smote, y_train_smote)

     RandomForestClassifier(n_estimators=20)

[60] confusion_matrix(y_test, model1.predict(X_test))

     array([[100,  25],
            [ 37,  13]])

[61] print(f"Accuracy is {round(accuracy_score(y_test, model1.predict(X_test))*100,2)}")

     Accuracy is 64.57

[62] print(classification_report(y_test,model1.predict(X_test)))

                  precision    recall  f1-score   support

               1       0.73      0.80      0.76       125
               2       0.34      0.26      0.30        50

        accuracy                           0.65       175
       macro avg       0.54      0.53      0.53       175
    weighted avg       0.62      0.65      0.63       175
```