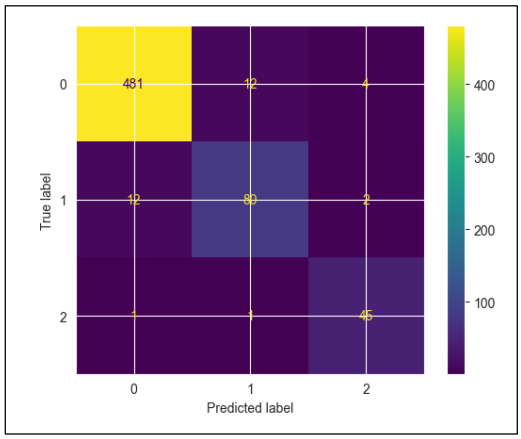
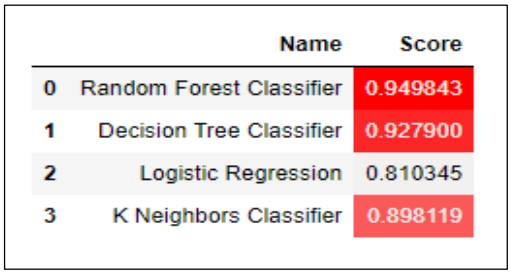
Project Development Phase
Model Performance Test

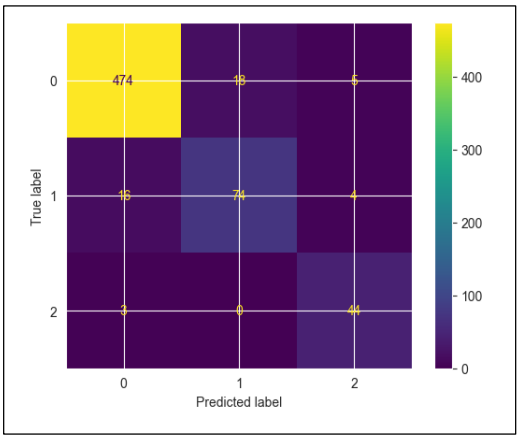
Date	30 August 2024
Team ID	Abhishek Kumar Sinha
Project Name	FetalAI: USING MACHINE LEARNING TO PREDICT AND MONITOR FETAL HEALTH
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Classification Model:** **a) Random Forest** Confusion Matrix	
		Accuracy Score	

b) Decision Tree

Confusion Matrix

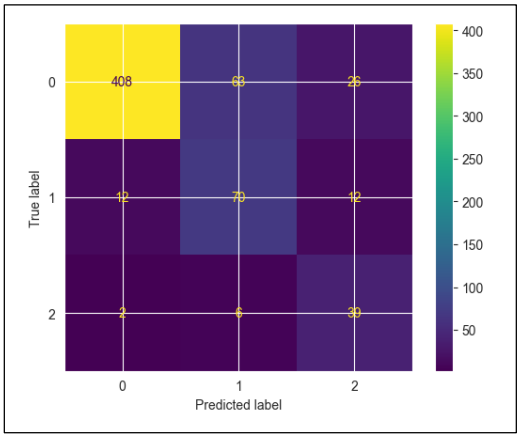


Accuracy Score

	Name	Score
0	Random Forest Classifier	0.949843
1	Decision Tree Classifier	0.927900
2	Logistic Regression	0.810345
3	K Neighbors Classifier	0.898119

c) Logistic Regression

Confusion Matrix



Accuracy Score

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0	Random Forest Classifier	0.949843
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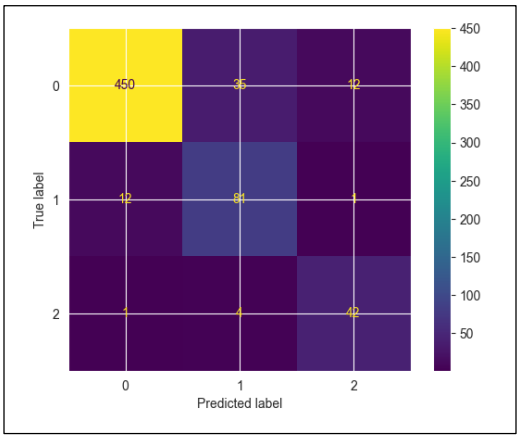
		d) K-Nearest Neighbours Confusion Matrix Accuracy Score	 **Name** **Score** **0** Random Forest Classifier **0.949843** **1** Decision Tree Classifier **0.927900** **2** Logistic Regression 0.810345 **3** K Neighbors Classifier **0.898119**

2.	Tune the Model	Validation Method	`from sklearn.model_selection import train_test_split`
			
			`X_train, X_test, y_train, y_test = train_test_split(X,y, test_size=0.3, random_state=10)`
			
			`X_train.shape, X_test.shape`
			
			`RF_model.predict([[0.001,26,0,41,132,8.2,133,0.005]])`
			`array([1.])`
			
			`RF_model.predict([[0.001,34,0,116,131,12.4,99,0.002]])`
			`array([2.])`
			
			`RF_model.predict([[0,87,71.0,0,125,3.4,124,0]])`
			`array([3.])`