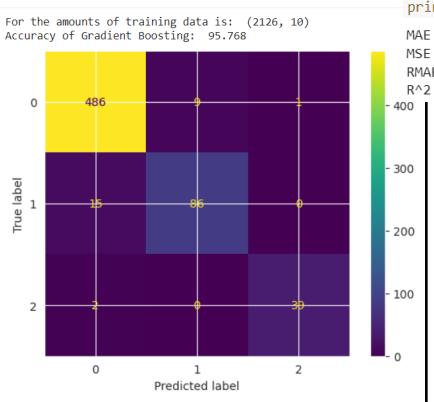
Project Development Phase
Model Performance Test

Date	16 November 2022
Team ID	Team-591602
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	**Regression Model:**
		MAE - 0.05
		MSE - 0.05
		RMSE - 0.24
		R2 score - 0.83
		
		Classification Model:
		Confusion Matrix -
		 
		
		Accuray Score- & Classification Report - 95.7% accuracy
			After performing all the Regression Models we found the best model as Gradient Boosting Classifier with best MAE, MSE, RMSE, R2 Scores
			
			`print("MAE :",mean_absolute_error(y_test,y_pred))`
			`print("MSE :",mean_squared_error(y_test,y_pred))`
			`print("RMAE :",np.sqrt(mean_squared_error(y_test,y_pred)))`
			`print("R^2 :",r2_score(y_test,y_pred))`
			
			MAE : 0.047021943573667714
			MSE : 0.05642633228840126
			RMAE : 0.23754227473946876
			R^2 : 0.8305957324403862

2.	Tune the Model	Hyperparameter Tuning -
		Validation Method -
			`y_temp=gb_model.predict(X_test)`
			`print("MAE on test set :",mean_absolute_error(y_temp,y_pred))`
			`print("MSE on test set :",mean_squared_error(y_temp,y_pred))`
			`print("RMAE on test set :",np.sqrt(mean_squared_error(y_temp,y_pred)))`
			`print("R^2 on test set :",r2_score(y_temp,y_pred))`
			
			MAE on test set : 0.0
			MSE on test set : 0.0
			RMAE on test set : 0.0
			R^2 on test set : 1.0