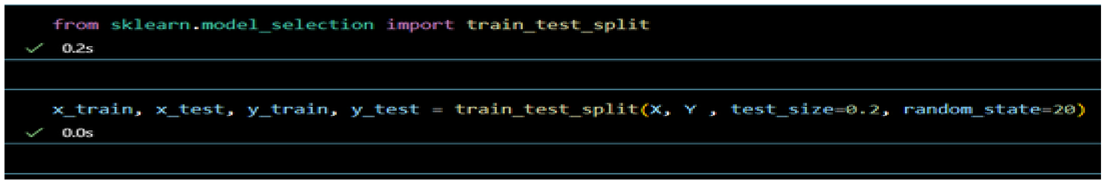
Model Development Phase Template

Date	9 JULY 2024
Team ID	740088
Project Title	**Anemiasense: Leveraging Machine Learning For Precise Anemia Recognitions**
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

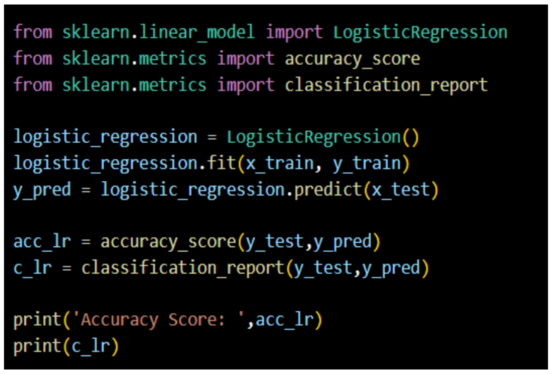
Initial Model Training Code:

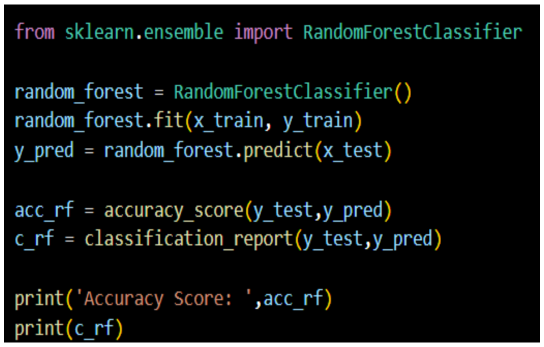


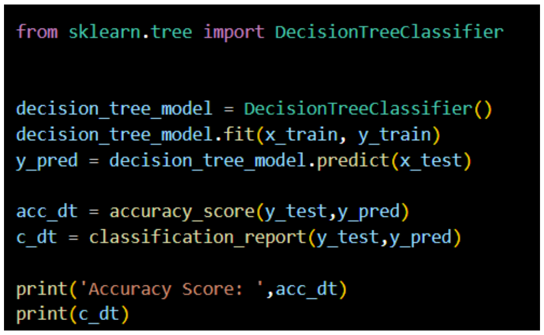
```
from sklearn.model_selection import train_test_split
✓ 0.2s

x_train, x_test, y_train, y_test = train_test_split(X, Y , test_size=0.2, random_state=20)
✓ 0.0s
```

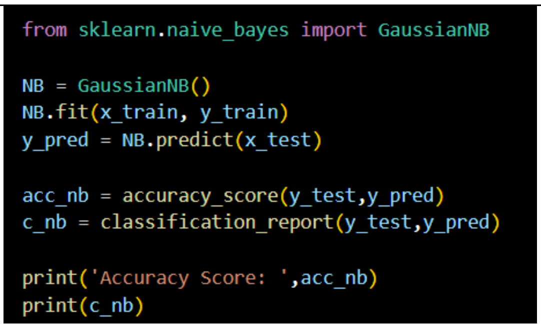
Model Validation and Evaluation Report:

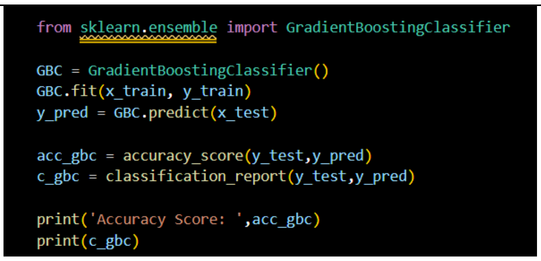
Model	Classification Report	Accuracy

Logistic Regression Model	 `from sklearn.linear_model import LogisticRegression`
	`from sklearn.metrics import accuracy_score`
	`from sklearn.metrics import classification_report`
	
	`logistic_regression = LogisticRegression()`
	`logistic_regression.fit(x_train, y_train)`
	`y_pred = logistic_regression.predict(x_test)`
	
	`acc_lr = accuracy_score(y_test,y_pred)`
	`c_lr = classification_report(y_test,y_pred)`
	
	`print('Accuracy Score: ',acc_lr)`
	`print(c_lr)`
		0.991

Random forest model	 `from sklearn.ensemble import RandomForestClassifier`
	
	`random_forest = RandomForestClassifier()`
	`random_forest.fit(x_train, y_train)`
	`y_pred = random_forest.predict(x_test)`
	
	`acc_rf = accuracy_score(y_test,y_pred)`
	`c_rf = classification_report(y_test,y_pred)`
	
	`print('Accuracy Score: ',acc_rf)`
	`print(c_rf)`
		1.0

Decision Tree Model	 `from sklearn.tree import DecisionTreeClassifier`
	
	`decision_tree_model = DecisionTreeClassifier()`
	`decision_tree_model.fit(x_train, y_train)`
	`y_pred = decision_tree_model.predict(x_test)`
	
	`acc_dt = accuracy_score(y_test,y_pred)`
	`c_dt = classification_report(y_test,y_pred)`
	
	`print('Accuracy Score: ',acc_dt)`
	`print(c_dt)`
		1.0

Gaussian Navies Bayes	 `from sklearn.naive_bayes import GaussianNB`
	
	`NB = GaussianNB()`
	`NB.fit(x_train, y_train)`
	`y_pred = NB.predict(x_test)`
	
	`acc_nb = accuracy_score(y_test,y_pred)`
	`c_nb = classification_report(y_test,y_pred)`
	
	`print('Accuracy Score: ',acc_nb)`
	`print(c_nb)`
		0.979

Gradient Boosting Classifier	 `from sklearn.ensemble import GradientBoostingClassifier`
	
	`GBC = GradientBoostingClassifier()`
	`GBC.fit(x_train, y_train)`
	`y_pred = GBC.predict(x_test)`
	
	`acc_gbc = accuracy_score(y_test,y_pred)`
	`c_gbc = classification_report(y_test,y_pred)`
	
	`print('Accuracy Score: ',acc_gbc)`
	`print(c_gbc)`
		1.0