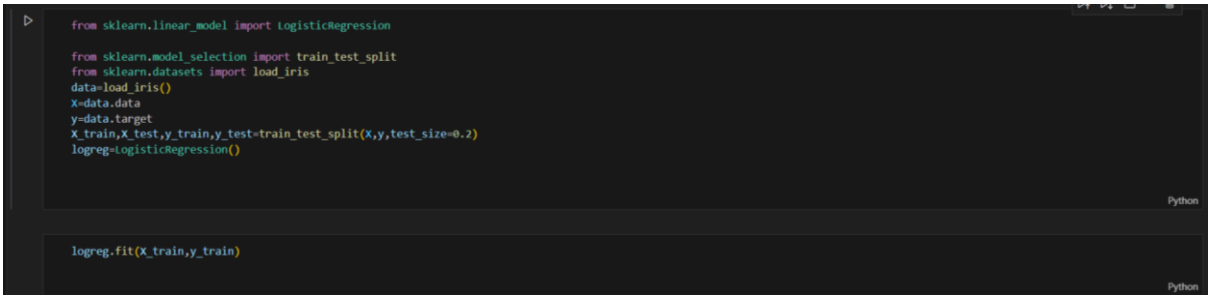
Model Development Phase Template

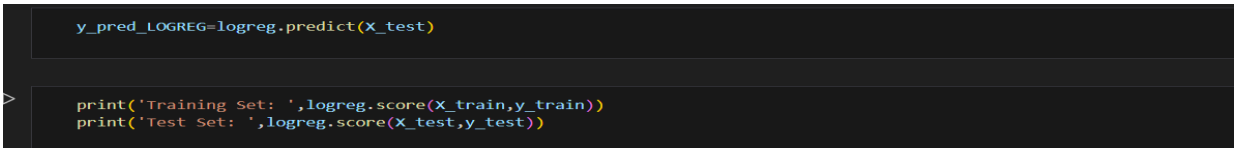
Date	14 July 2024
Team ID	739872
Project Title	Blood Donation Prediction
Maximum Marks	4 Marks

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:





```
y_pred_RF=rand_forest.predict(X_test)
```

Python

```
predictionRF=rand_forest .predict(X_test)
#checking the accuracy on the training set
print('Training set :', rand_forest.score(X_train,y_train))
#checking the accuracy on the testing set
print('Testing set :', rand_forest.score(X_test,y_test))
```

Python

```
accuracy_RF=rand_forest.score(X_test, y_test)
print('Accuracy_RF: ', accuracy_RF*100)
```

```
from sklearn import metrics # Import the metrics module
from sklearn.metrics import confusion_matrix
print(confusion_matrix(y_test,y_pred_RF))
```

Python

```
from sklearn.metrics import classification_report
print(classification_report(y_test,y_pred_RF))
```

Python

```
from sklearn.svm import SVC
svm= SVC(kernel='rbf',random_state=0)
svm.fit(X_train,y_train)
```

Python

```
y_pred_SVC=svm.predict(X_test)
```

Python

```
print('Training Set:',svm.score(X_train,y_train))
print('Testing Set:',svm.score(X_test,y_test))
```

```
accuracy_SVC=svm.score(X_test,y_test)
print('Accuracy_SVM:',accuracy_SVC*100)
```

```
from sklearn import metrics # Import the metrics module
from sklearn.metrics import confusion_matrix
print(confusion_matrix(y_test,y_pred_SVC))
```

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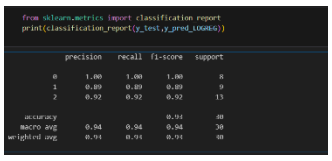
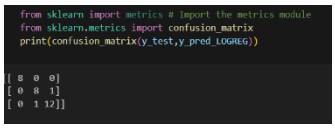
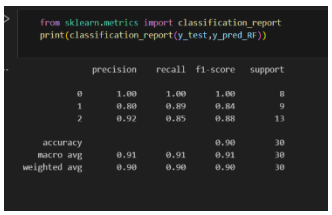
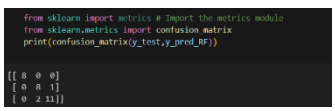
```
from sklearn.metrics import classification_report
print(classification_report(y_test,y_pred_SVC))
```

Python

Model Validation and Evaluation Report:

Model	Classification Report	Accuracy	Confusion Matrix
Logistic Regression		93.3	
Random Forest		90.0	

Support Vector Machine		**90.0**