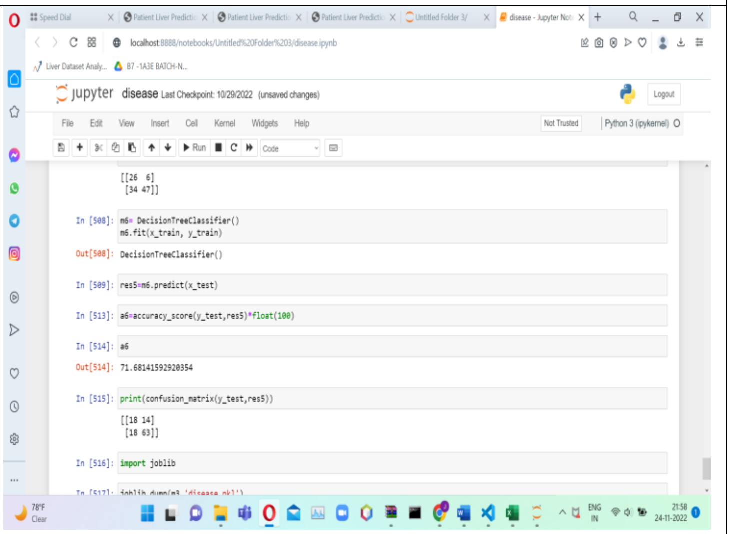
Project Development Phase
Model Performance Test

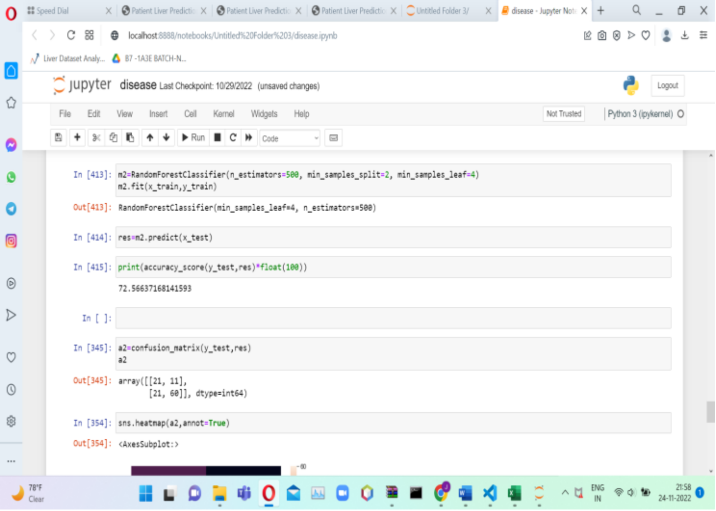
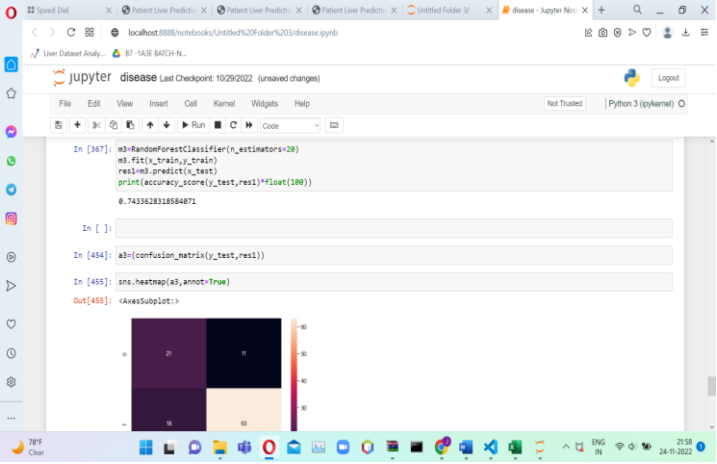
Date	10 NOvember 2022
Team ID	PNT2022TMID17773
Project Name	Project - Statistical Machine Learning Approaches to Liver Disease Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Classification Model:** Confusion Matrix - , Accuray Score- & Classification Report -	

```
[[26  6]
 [34 47]]

In [508]: m6= DecisionTreeClassifier()
          m6.fit(x_train, y_train)

Out[508]: DecisionTreeClassifier()

In [509]: res5=m6.predict(x_test)

In [513]: a6=accuracy_score(y_test,res5)*float(100)

In [514]: a6

Out[514]: 71.68141592920354

In [515]: print(confusion_matrix(y_test,res5))

          [[18 14]
           [18 63]]

In [516]: import joblib

In [517]: joblib.dump(m3,'disease.pkl')
```

2.	Tune the Model	Hyperparameter Tuning - Validation Method -	 

```
In [413]: m2=RandomForestClassifier(n_estimators=500, min_samples_split=2, min_samples_leaf=4)
          m2.fit(x_train,y_train)

Out[413]: RandomForestClassifier(min_samples_leaf=4, n_estimators=500)

In [414]: res=m2.predict(x_test)

In [415]: print(accuracy_score(y_test,res)*float(100))

          72.56637168141593

In [ ]:

In [345]: a2=confusion_matrix(y_test,res)
          a2

Out[345]: array([[21, 11],
                 [21, 60]], dtype=int64)

In [354]: sns.heatmap(a2,annot=True)

Out[354]: <AxesSubplot:>
```

```
In [367]: m3=RandomForestClassifier(n_estimators=20)
          m3.fit(x_train,y_train)
          res1=m3.predict(x_test)
          print(accuracy_score(y_test,res1)*float(100))

          0.7433628318584071

In [ ]:

In [454]: a3=(confusion_matrix(y_test,res1))

In [455]: sns.heatmap(a3,annot=True)

Out[455]: <AxesSubplot:>
```

jupyter disease Last Checkpoint: 10/29/2022 (unsaved changes)
localhost:8888/notebooks/Untitled%20Folder%203/disease.ipynb
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Logout
21
11
18
63
60
50
40
30
0
1
21:58
24-11-2022