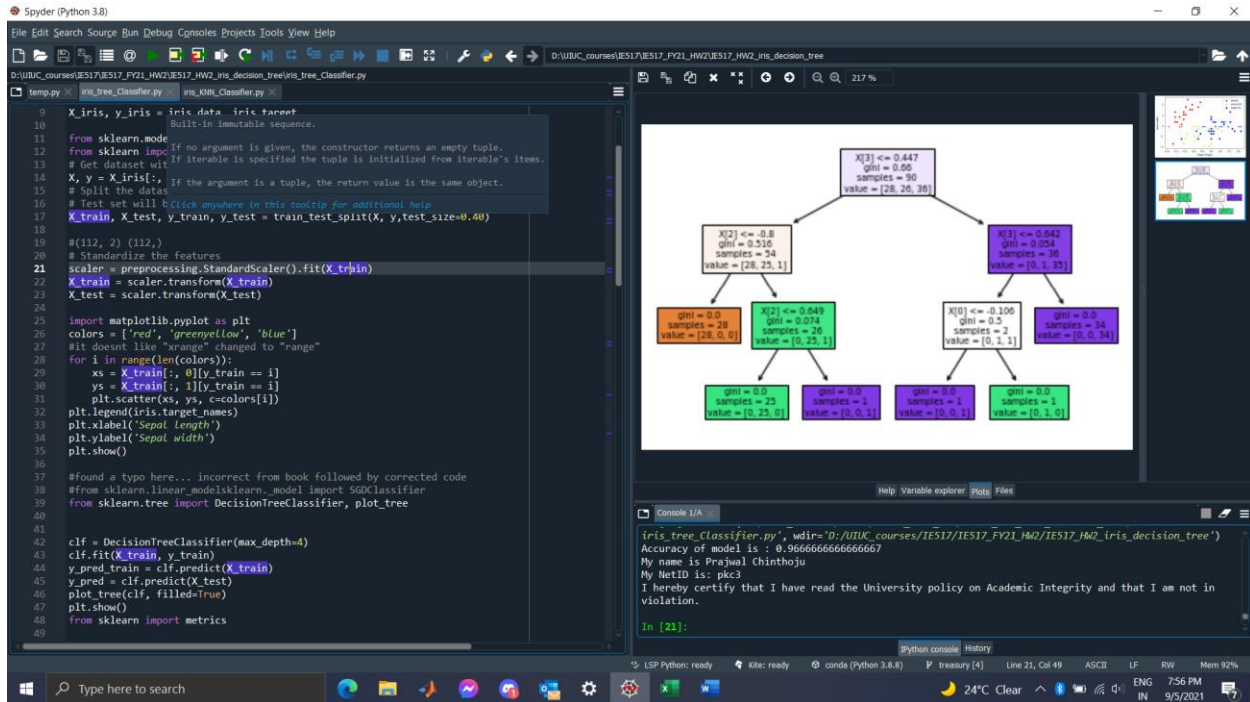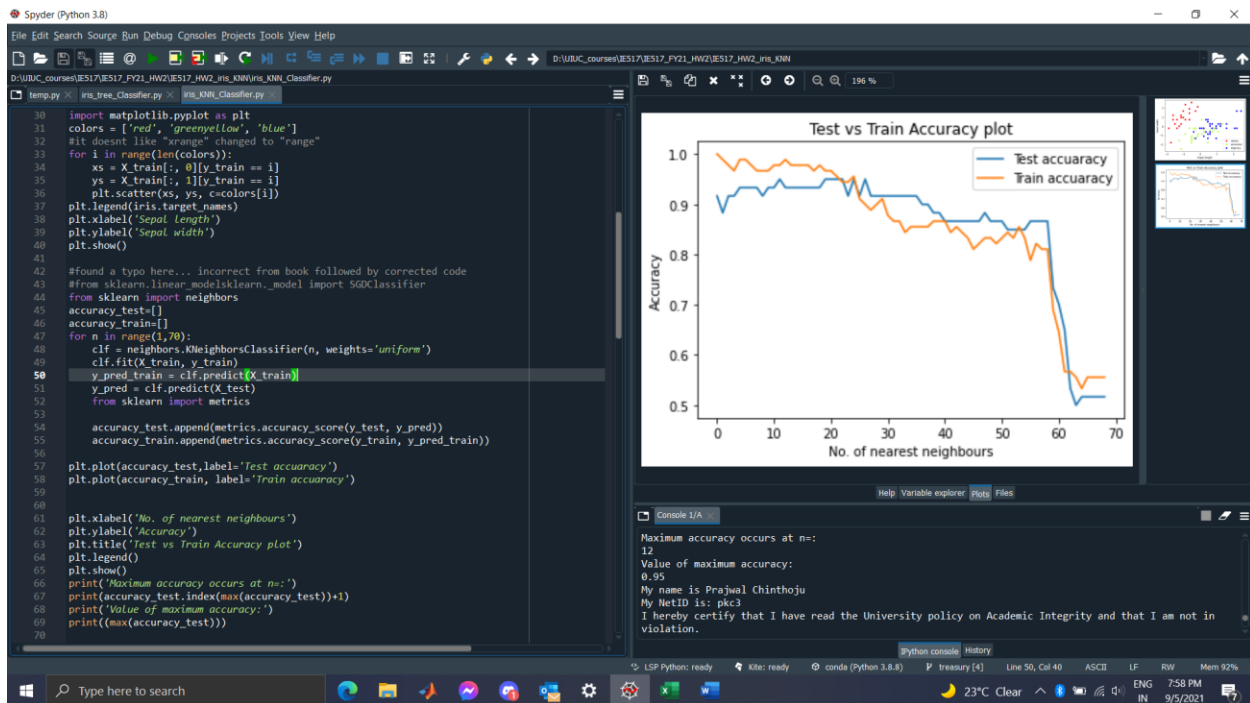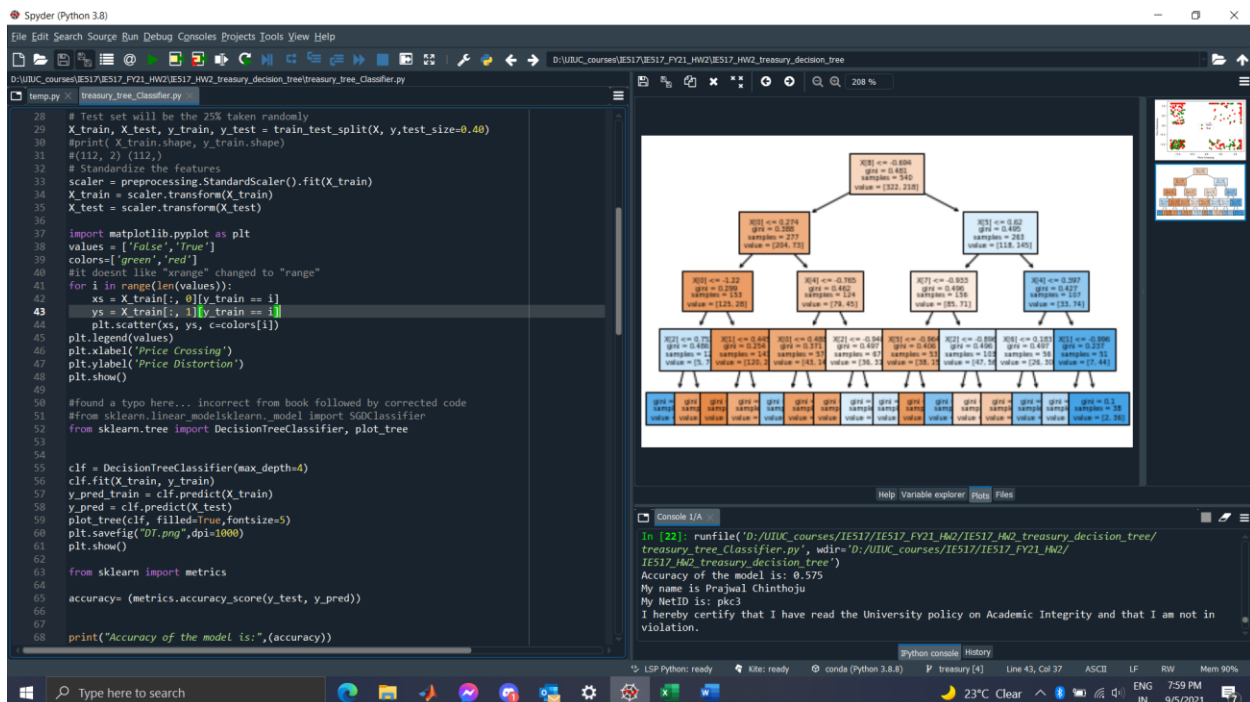Github link:

Iris dataset with decision tree classifier:

Iris dataset with KNN classifier:

Treasury dataset with decision tree classifier:

Treasury dataset with KNN classifier:

```python
values = ['False','True']
colors=['green','red']
#it doesnt like "xrange" changed to "range"
for i in range(len(values)):
    xs = X_train[:, 0][y_train == i]
    ys = X_train[:, 1][y_train == i]
    plt.scatter(xs, ys, c=colors[i])
plt.legend(values)
plt.xlabel('Price Crossing')
plt.ylabel('Price Distortion')
plt.show()
#found a typo here... incorrect from book followed by corrected code
#from sklearn.linear_modelsklearn._model import SGDClassifier
from sklearn import neighbors
accuracy_test=[]
accuracy_train=[]
for n in range(1,70):
    clf = neighbors.KNeighborsClassifier(n, weights='uniform')
    clf.fit(X_train, y_train)
    y_pred_train = clf.predict(X_train)
    y_pred = clf.predict(X_test)
    from sklearn import metrics

    accuracy_test.append(metrics.accuracy_score(y_test, y_pred))
    accuracy_train.append(metrics.accuracy_score(y_train, y_pred_train))

plt.plot(accuracy_test,label='Test accuaracy')
plt.plot(accuracy_train, label='Train accuaracy')


plt.xlabel('No. of nearest neighbours')
plt.ylabel('Accuracy')
plt.title('Test vs Train Accuracy plot')
plt.legend()
plt.show()
print('Maximum accuracy occurs at n=:')
print(accuracy_test.index(max(accuracy_test))+1)
print('Value of maximum accuracy:')
print((max(accuracy_test)))

# print( clf.coef_)
```

Console 1/A

```
Maximum accuracy occurs at n=:
18
Value of maximum accuracy:
0.663888888888889
My name is Prajwal Chinthoju
My NetID is: pkc3
I hereby certify that I have read the University policy on Academic Integrity and that I am not in
violation.
```