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Practice Assignment-3

Que1-

univariate Linear Regression:

```
[88] model=LinearRegression().fit(X_train,y_train)
     acc=model.score(X_test,y_test)
     print("Accuracy : ",acc)
     x=model.coef_
     print("w0: ",model.intercept_,"w1: ",x[0])
```

```
Accuracy :  0.9999997042964314
w0:  [0.49147333] w1:  [1.82000039]
```

Multivariate linear regression:

```
acc=model.score(X_test,y_test)
print("Accuracy: ",acc)
x=model.coef_
print("w0: ",model.intercept_,"w1 is: ", x[0]," w2: ", x[1])
```

```
Accuracy:  0.9999997705958328
w0:  0.46026231168173126 w1 is:  1.8199822432695036  w2:  0.0109332259012924
```

Que 2:

Iris dataset with MLP Classifier:

```
clf = MLPClassifier(solver='lbfgs',hidden_layer_sizes=(10, 7), random_state=3).fit(X_train, y_train)
pred=clf.predict(X_test)
acc=accuracy_score(y_test,pred)
print("Accuracy ",acc)
```

```
Accuracy  0.9333333333333333
```

Applying MLP classifier after encoding setosa to 0 and rest to 1 in species column:

```
clf = MLPClassifier(solver='lbfgs',hidden_layer_sizes=(10,3), random_state=3).fit(X_train, y_train)
pred=clf.predict(X_test)
acc=accuracy_score(y_test,pred)
print("Accuracy: ",acc)
```

```
Accuracy:  0.6
```