Python Programs for Classification.

```
1. import pandas as pd
2. from sklearn.datasets import load_iris
3. iris = load_iris()

4. iris.feature_names
5. iris.target_names
6. df = pd.DataFrame(iris.data, columns =
       iris.feature_names)
   df.head() -1

7. df['target'] = iris.target
   df.head() -2

8. df[df.target==1].head() -3

9. df[df.target==2].head() -4

10. df['flower_name'] = df.target.apply(lambda
       x: iris.target_names[x])
    df.head() -5

11. df[45:55]

12. df0 = df[:50]
    df1 = df[50:100]
    df2 = df[100:]
```

13. import matplotlib.pyplot as plt
% matplotlib in line.

14. plt.Xlabel ('Sepal length')
plt.Ylabel ('Sepal width')
plt.scatter (df0['Sepal length (cm)'],
df0['Sepal width (cm)'], color=
"green", marker='+')
plt.scatter (df1['Sepal length (cm)'],
df1['Sepal width (cm)'], color=
"blue", marker='.')

15. 11 (petal).

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16. from sklearn.model_selection import train_test
_split

17 X= df.drop(['target', 'flower_name'], axis=
'columns')
y= df.target

18. X_train, X_test, Y_train, Y_test =
train_test_split(X, y, test_size=0.2, random
_state=1)

19. len(X_train)

20. len(X_test)

from sklearn.neighbors import neighbors classifier

knn = kneighbors classifier (n_neighbors = 10)

~~while~~ ~~2. for~~ ~~3.~~

knn.fit(X_train, y_train)

knn.score(X_test, y_test).