Experiment No.: 7

Aim

Program to implement text classification using Support vector machine.

CO3

Use different packages and frameworks to implement text classification using SVM and clustering using k-means

Procedure

```
from sklearn.datasets import make_blobs

import matplotlib.pyplot as plt

import numpy as np

import pandas as pd

X, Y = make_blobs(n_samples=500, centers=2, random_state=0, cluster_std=0.40)

plt.scatter(X[:, 0], X[:, 1], c=Y, s=50, cmap='spring');

plt.show()

xfit = np.linspace(-1, 3.5)

plt.scatter(X[:, 0], X[:, 1], c=Y, s=50, cmap='spring')

for m, b, d in [(1, 0.65, 0.33), (0.5, 1.6, 0.55), (-0.2, 2.9, 0.2)]:

    yfit = m * xfit + b

    plt.plot(xfit, yfit, '-k')

    plt.fill_between(xfit, yfit - d, yfit + d, edgecolor='none', color='#AAAAAA', alpha=0.4)

plt.xlim(-1, 3.5);

plt.show()

x = pd.read_csv("cancer.csv")

a = np.array(x)

y = a[:, 30]

x = np.column_stack((x.malignant, x.benign))

x.shape

print(x), (y)

from sklearn.svm import SVC
```

clf = SVC(kernel='linear')

clf.fit(x, y)

clf.predict([[120, 990]])

clf.predict([[85, 550]])

Output Screenshot
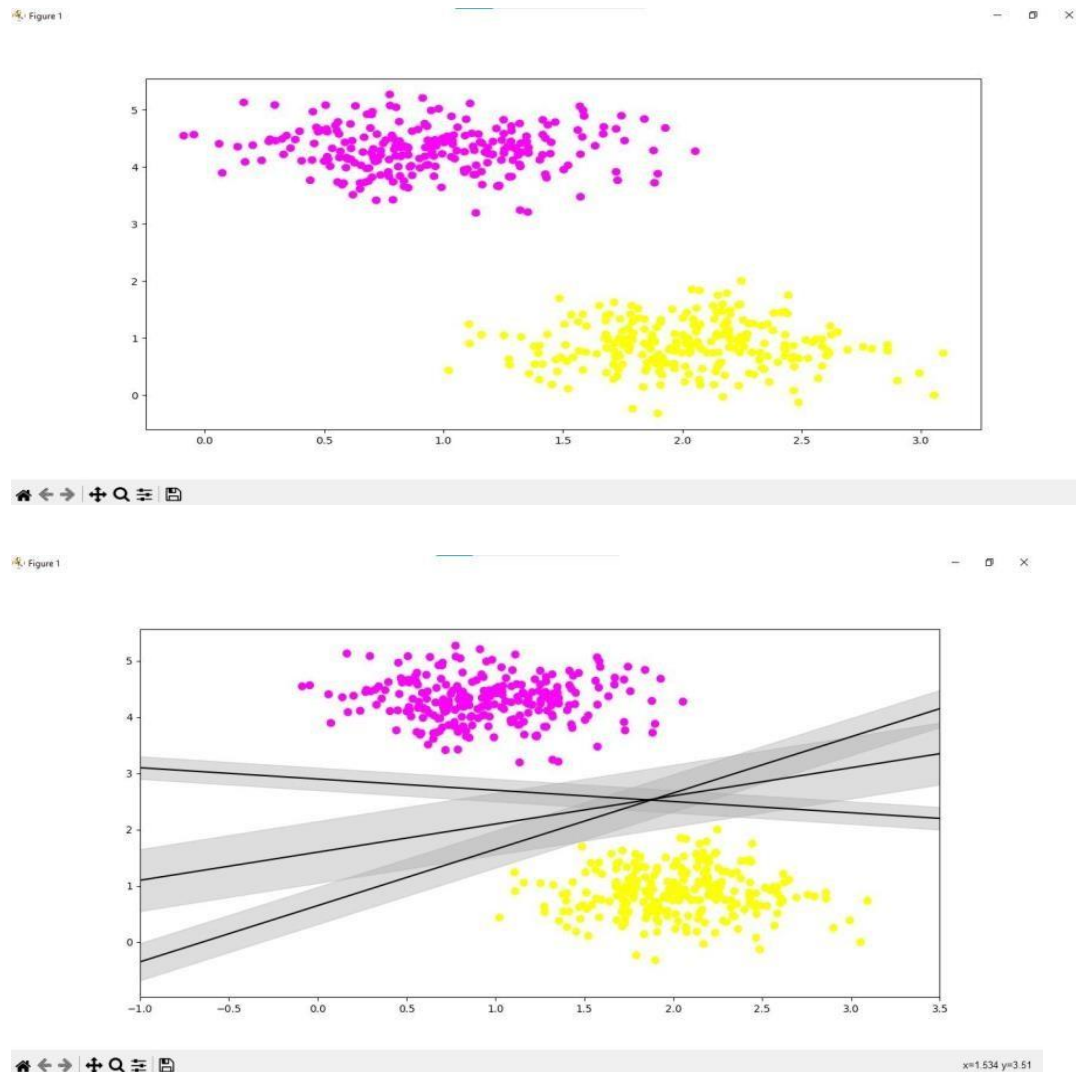
Result

The program was executed and the result was successfully obtained. Thus CO3 was obtained.