**Naïve Bayesian Classification Demo 1**

%matplotlib inline

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns; sns.set()

from sklearn.datasets import make\_blobs

X, y = make\_blobs(100, 2, centers=2, random\_state=2, cluster\_std=1.5)

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

from sklearn.naive\_bayes import GaussianNB

model = GaussianNB()

model.fit(X, y);

rng = np.random.RandomState(0)

Xnew = [-6, -14] + [14, 18] \* rng.rand(2000, 2)

ynew = model.predict(Xnew)

ynew

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

lim = plt.axis()

plt.scatter(Xnew[:, 0], Xnew[:, 1], c=ynew, s=20, cmap='RdBu', alpha=0.1)

plt.axis(lim);

yprob = model.predict\_proba(Xnew)

yprob[-8:]. round(2)