



Artificial Intelligence - MSc

CS6501 - MACHINE LEARNING APPLICATIONS

Instructor: Enrique Naredo

CS6501_Etivity_1

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Student_2 = "17246067" | James Larkin" #@param {type:"string"}  
Student_3 = "17238889" | Karl Mullane" #@param {type:"string"}  
Student_4 = "17236444" | Sean Mortimer" #@param {type:"string"}  
Student_5 = "16170571" | Gerard Holian" #@param {type:"string"}  
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1. Introduction

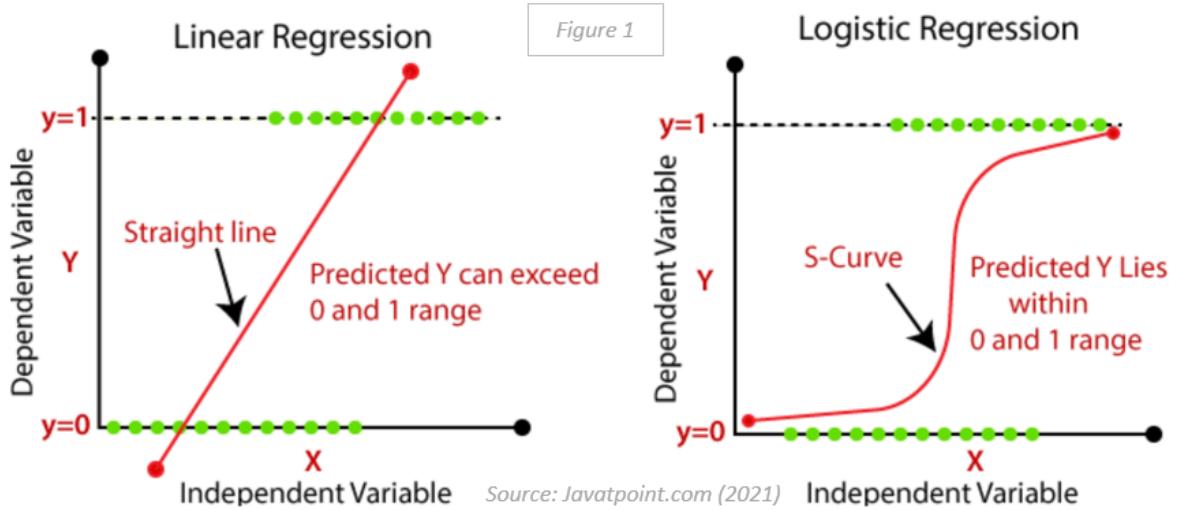
1.1 Background

The purpose of this report is to explain and apply four different classification methods to four different datasets. The four classification methods that will be used are a logistic regression, support vector machine, Gaussian Naive Bayes and a random forest. Three of these datasets are real data and the other is synthetic. The data will be split into two sets: one for training the classification models and one for testing the models. The k -fold method will also be used for cross validation. The models will then be evaluated using the statistics for R^2 , accuracy and ROC curve/ AUC . The aim is to determine which classification model predicts the data the best.

The first classification method that will be used is the logistic regression which is a supervised machine learning classification technique. It has many extensions which allow the coder to make

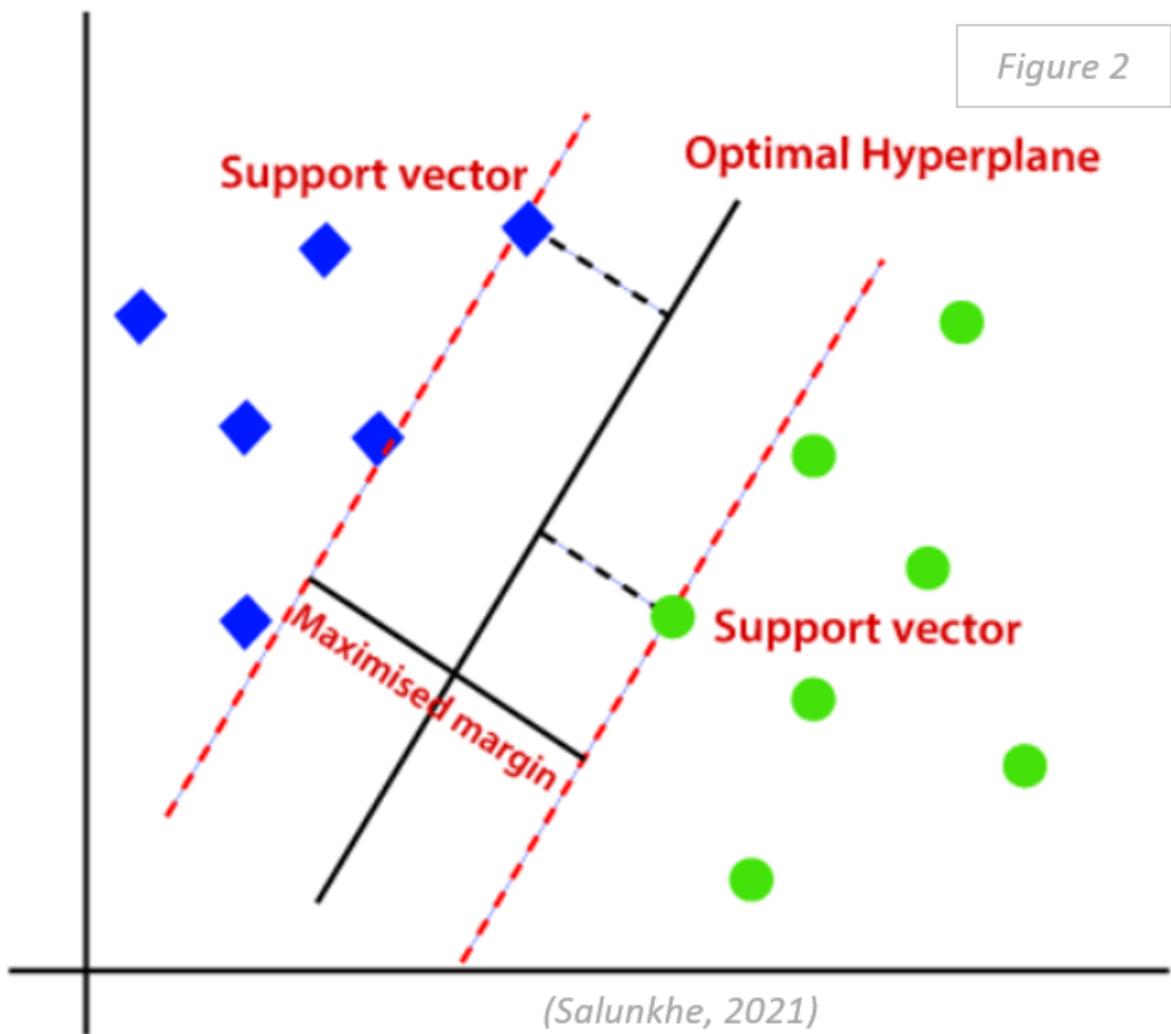
predictions about the probability that an observation is of a certain class. Logistic Regression is a relatively straightforward and well-understood approach to classification. (Albon, 2018)

There are two types of logistic regression, binary logistic regression and multinomial logistic regression. Binary logistic regression is used when there are only 2 outcome variables and multinomial is used when there are more than 2 outcome variables. The goal of logistic regression is to analyse the relationship between a categorical response variable and predictor variables by predicting probabilities of the data belonging to the categories in question (Park, 2013).



The second classification method that will be used is a support vector machine (SVM). This is a supervised learning algorithm method meaning it learns from a set of data. It studies the data and its algorithm enables it to classify new data based on the previous data. The basic idea of the SVM is to split the data into classes using a hyperplane, which is the boundary that separates the data. The optimum hyperplane is one that has the maximum distance from the support vectors. These support vectors lie on the closest data points either side of the hyperplane and the distance between them and the hyperplane is referred to as the margin ("Support Vector Machine (SVM) Explained"- towardsdatascience.com, 2021).

Figure 2



The third classification method that will be used is the Gaussian Naive Bayes model. This method assumes that each outcome class is independent and follow a Gaussian (normal) distribution. It uses bayes theorem on conditional probability. It takes a given data point and returns the class of which this data point has the highest probability of belonging to.

The final classification method that will be used is the random forest model. This is a form of ensemble learning which means that it combines several base models so it can produce an optimal model to make predictions (Singh, 2019). It creates a collection of decision trees from a given dataset and outputs the class which is the mode from the decision tree outcomes.

1.2 Methodology

1.2.1 Logistic Regression

Within each dataset new data will be assigned to their respective classes whereby the dependent variable y_i is categorical. Since $y \in 1, \dots, C$ where $C > 2$ in our datasets (apart from the breast cancer dataset where $C = 2$), multiclass classification is used (Synthetic: $C = 3$, Iris: $C = 3$, Wine: $C = 3$). In this case, each class is treated as its own binary classification problem whereby the one vs all approach is implemented (Sucky, 2020). For example, in the Iris dataset, if the value in the test set is similar to those values in training set classed as 'Setosa', this class will be denoted by 1 while versicolor and virginica will be 0. This process can be explained in more detail mathematically (Taboga, 2021).

$$P(y_i = 1|x_i) = S(x_i\beta)$$

Whereby the conditional probability of the dependent variable y_i is equal to 1 given the feature values of x_i . This is equal to the sigmoid function S times the linear combination of inputs of the feature values x_i and the beta coefficient β . In this case, observations would be assigned to class 1.

Similarly, the observation would be assigned to class 0 when:

$$P(y_i = 0|x_i) = 1 - P(y_i = 1|x_i) = 1 - S(x_i\beta)$$

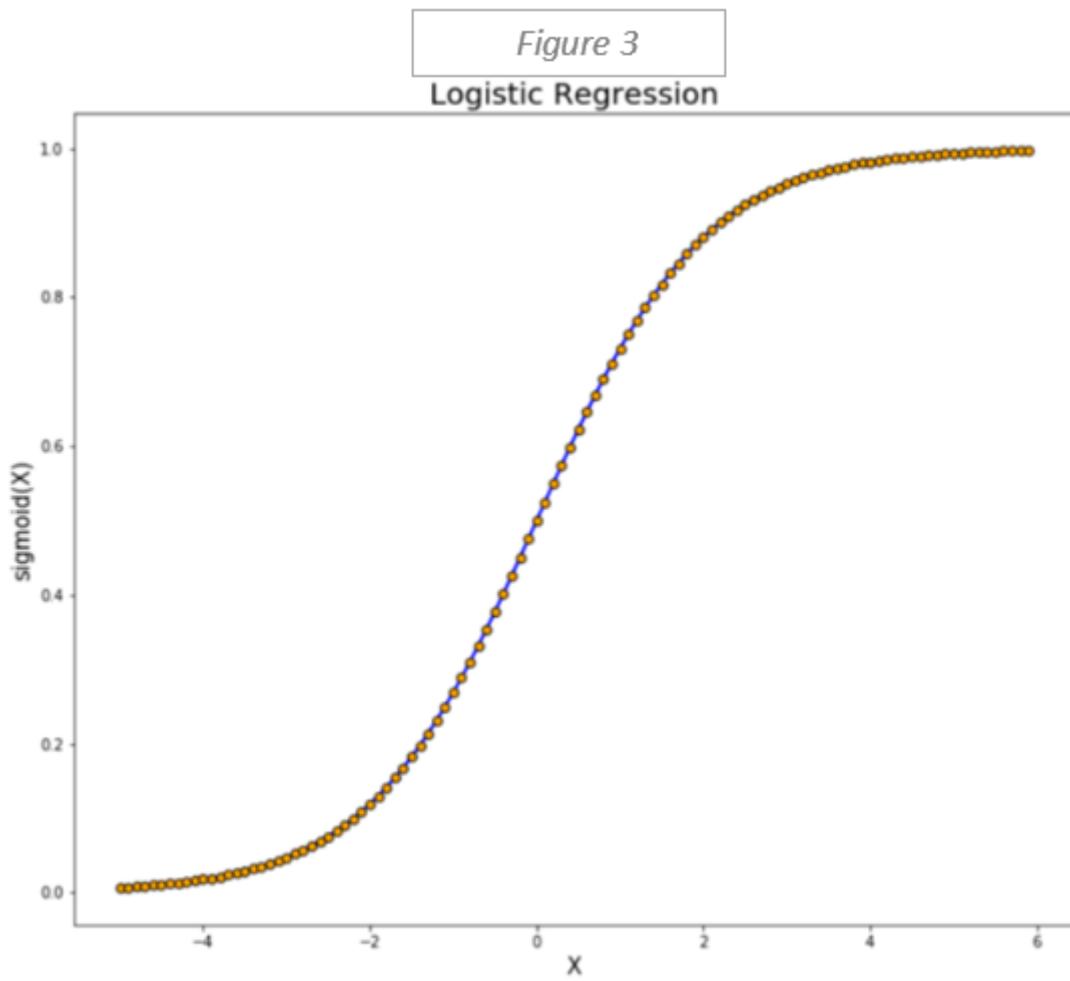
The sigmoid function is what transforms the linear regression model into this logistic classification model as it forces the values $x_i\beta$ to be between 0 and 1 (Bernoulli random variable).

$$\lim_{t \rightarrow -\infty} S(t) = 0 \setminus \lim_{t \rightarrow \infty} S(t) = 1$$

The sigmoid function takes the following equation:

$$S(t) = \frac{1}{1+exp(-t)}$$

and can be visualised as:

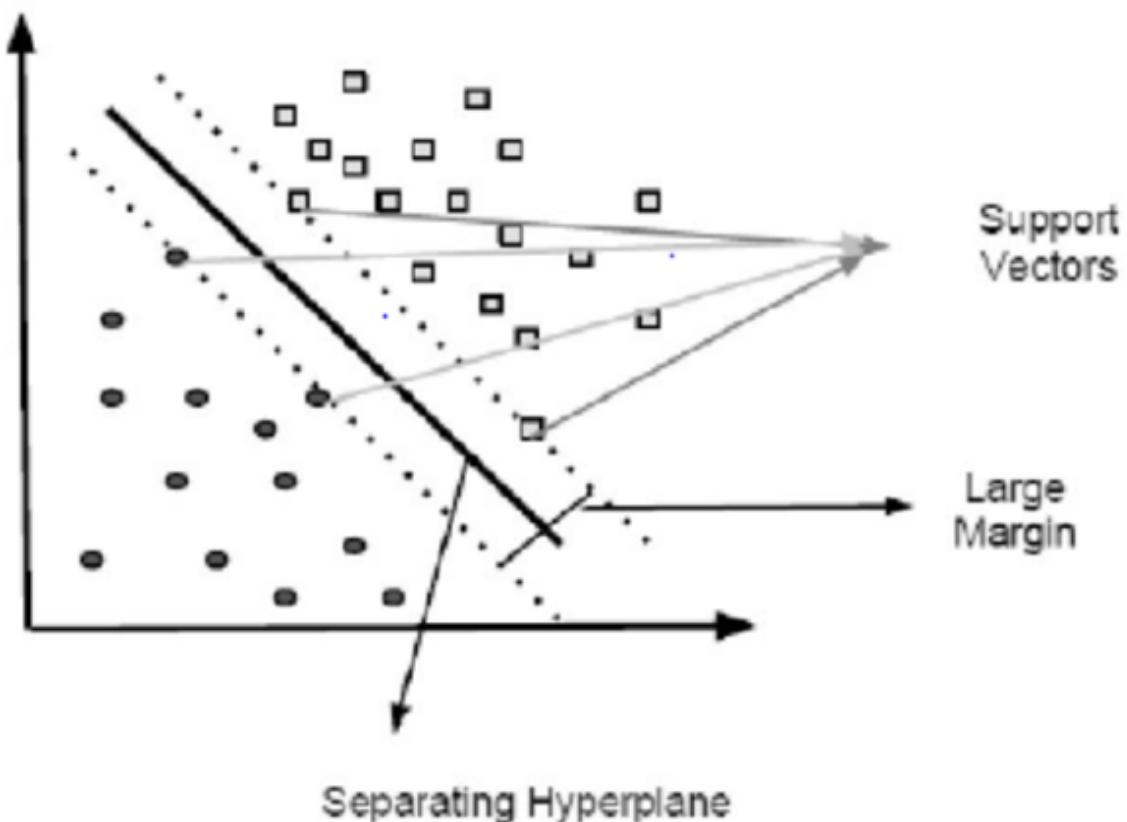


(Towardsdatascience.com, 2021)

1.2.2 Support Vector Machine

As explained above in the introduction, a SVM uses a hyperplane to separate the data. Below is an image of a hyperplane with the margin maximised.

Figure 4



(Kuzey, 2012)

The hyperplane will take the form:

$$y = ax + b$$

x and y are considered as features and renamed x_1 and x_2 so now:

$$ax_1 - x_2 + b = 0$$

Define $x = (x_1, x_2)$ and $w = (a, -1)$ then:

$$w \cdot x + b = 0$$

The hypothesis function can be defined as:

$$h(x_i) = 1 \text{ when } w \cdot x + b \geq 0$$

and $= -1$ when $w \cdot x + b < 0$

The points over or on the hyperplane will be in class $+1$ and the point under the hyperplane will be classified as in the class -1 (Sharma, 2021).

The formula for calculating the SVM classifier is as follows the form:

$$\text{minimise} \left[\frac{1}{n} \sum \max(0, 1 - y_i(w \cdot x_i - b)) \right] + \lambda \|w^2\|$$

In this report, the function **SVM** will be used to apply the support vector machine to the datasets.

The parameters of this function can be tuned to fit the data better:

- C : the default setting for this is = 1. This is the regularisation parameter and has to be positive.
- Gamma : When this is set higher, data points further from the hyperplane are considered for hyperplane tuning.
- Kernel : as there can be a large number of new dimensions, calculating for all vectors can be arduous. The dot product can between them can be used instead. For example, a new space is:

$$z = x^2 + y^2$$

with the dot product

$$a \cdot b = xa \cdot xb + ya \cdot yb + za \cdot zb \quad a \cdot b = xa \cdot xb + ya \cdot yb + (xa^2 + ya^2) \cdot (xb^2 + yb^2)$$

The SVM uses this dot product which is called the Kernel. The kernel can be set to multiple types including linear, RBF and polynomial.

1.2.3 Gaussian Naive Bayes

This technique uses the probability of a data point y belonging to a class d . Conditional probability is used to model this statement. For example, the synthetic dataset could have 3 classes (d_1, d_2, d_3) and 2 features (y_1, y_2).

Naive Bayes calculates the probability a datapoint belongs to all of these classes and outputs the class which has the highest probability. To do this:

- $\text{prediction}(y) = \text{argmax } p(d|y)$

Bayes' theorem is used to calculate $p(d|y)$:

$$p(d|y) = \frac{p(y|d).p(d)}{p(y)} = \frac{p(y|d).p(d)}{\sum p(y,d).p(d)}$$

It is assumed that the features y_1 and y_2 are independent given the class d .

The Gaussian distribution is used and the following form is assumed:

$$p(y_i|d_j) = \frac{1}{\sqrt{2\pi\sigma_{i,j}^2}} e^{-\frac{1}{2}(\frac{y_i - \mu_{i,j}}{\sigma_{i,j}})^2} \text{ for } i = 1, 2 \text{ and } j = 1, 2, 3$$

In the above formula, $\mu_{i,j}$ is the mean and $\sigma_{i,j}$ is the standard deviation that is estimated. There is 6 means as one is needed for each feature $i(2)$ with a class $d(3)$ (Kubler, 2021).

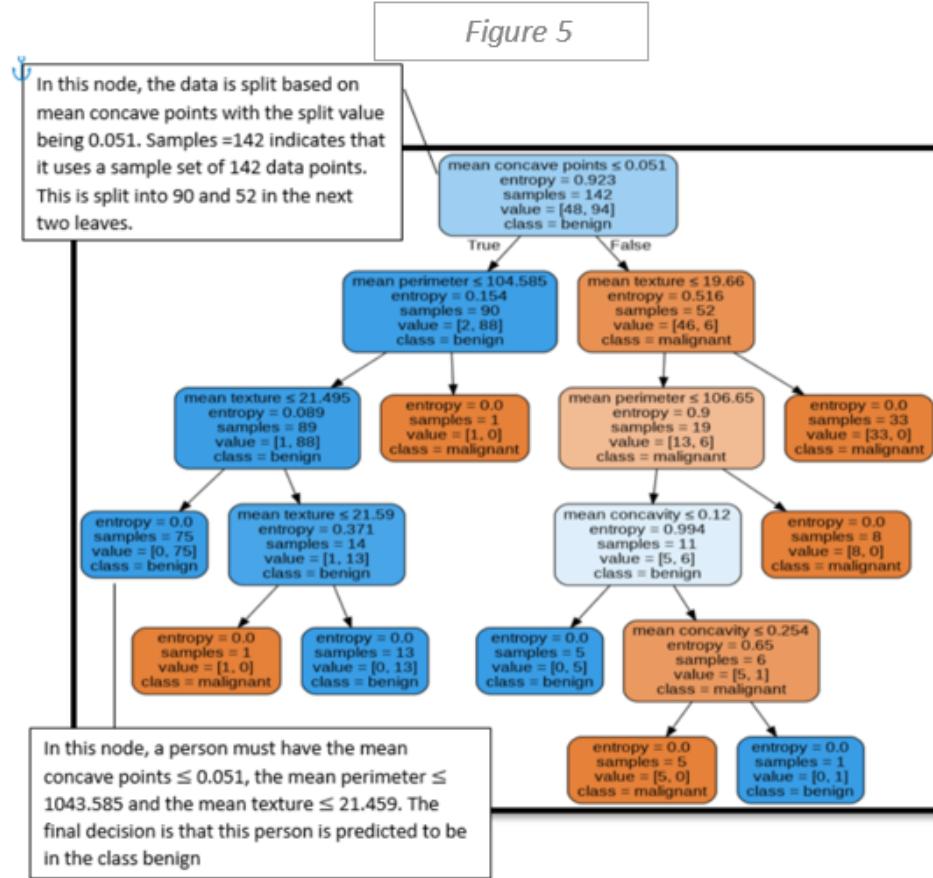
The full formula for making predictions is:

$$\frac{\prod \frac{1}{\sqrt{2\pi\sigma_{i,j}^2}} e^{-\frac{1}{2}(\frac{y_i - \mu_{i,j}}{\sigma_{i,j}})^2} \cdot p(d_j)}{p(y)}$$

1.2.4 Random Forest

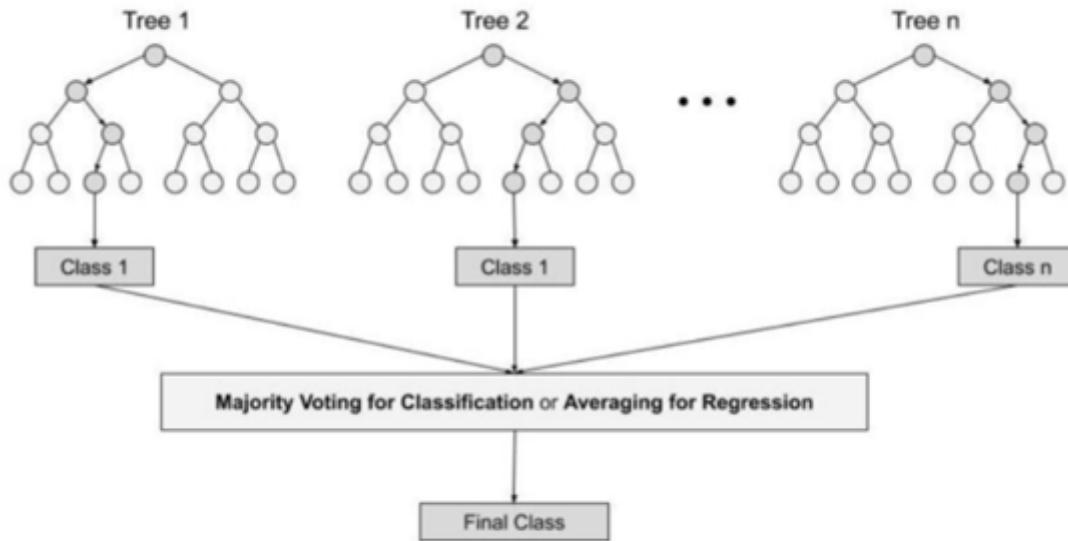
As mentioned in the introduction, a random forest predicts the class of a data point using the mode of the predictions from the decision trees. The higher the number of decision trees in a

random forest, the more accurate the results. This means that there is no problem with overfitting. However, increasing the number of decision trees means it will take longer to train the model and for the model to make predictions. Random forest models are widely used in medicine to classify a patient's risk of disease, using medical records. Similar to this, a random forest model will be used on the breast cancer dataset to predict whether or not the individual has breast cancer. Below is an example of a decision tree for the breast cancer dataset.



Several of these decision trees make up a random forest that make different decisions at different nodes in order to classify the data. Given a data point, the most popular outcome from the decision trees within the random forest is the predicted class of that data point. The image below shows this.

Figure 6



(Analyticsvidhya.com, 2021)

1.2.5 Confusion Matrices

Classification results in four possible outcomes. For an example, these outcomes will be explained in terms of the breast cancer dataset

- **True Positives (TP):** This is the number of individuals who were diagnosed as malignant that were correctly predicted as malignant.
- **True Negatives (TN):** This is the number of people who were diagnosed as benign that were correctly predicted as benign.
- **False Positives (FP):** This is the number of people who were benign that were incorrectly predicted as being malignant. This is known as a type II error.
- **False Negatives (FN):** This is the number of people that were malignant that were incorrectly predicted as benign. This is known as a type I error.

These four statistics above can be used to measure the performance of a classifier. These metrics include accuracy, misclassification, specificity, sensitivity, and precision (Fawcett, 2006).

- **Accuracy:** This is the proportion of correctly predicted outcomes.

$$= \frac{TP+TN}{TP+TN+FP+FN}$$

- **Misclassification:** This is the proportion of incorrectly predicted outcomes.

$$= \frac{FP+FN}{TP+TN+FP+FN}$$

- **Specificity:** This is the proportion of actual negatives that were correctly predicted.

$$= \frac{TN}{TN+FP}$$

- **Sensitivity:** This is the proportion of actual admissions that were correctly predicted.

$$= \frac{TP}{TP+FN}$$

- **Precision:** This is the proportion of predicted admissions that were actual admissions.

$$= \frac{TP}{TP+FN}$$

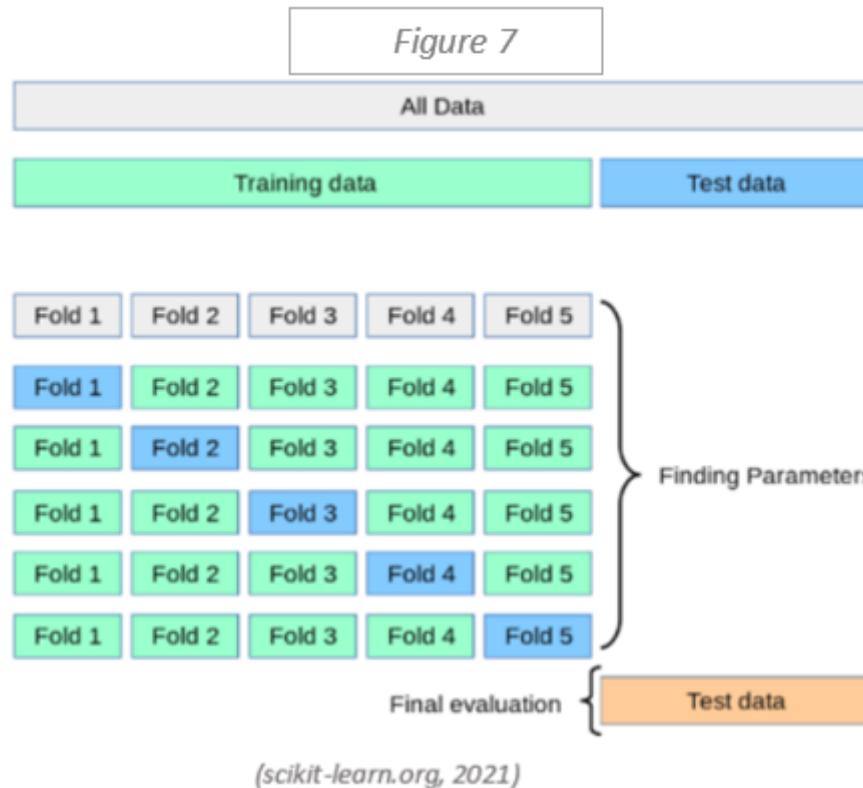
The metrics sensitivity and precision are used to get the F-score which measures the predictive power of the model. It is the harmonic mean of sensitivity and precision of a classifier (Cuadros-Rodríguez et al., 2016). This gives us a score of between 0 and 1. The higher the score the more efficient the model is at predicting class outcome.

- **F-score** =
$$\frac{2(Precision)(Sensitivity)}{(Precision + Sensitivity)}$$

1.2.6 k -fold

When data is split into three sets for training, testing and validating the model, it reduces the amount of the data that can be used to train the model. Instead of this method, k -fold cross validation can be used. k -fold still uses a test set for evaluating the model, but does not use the validation set.

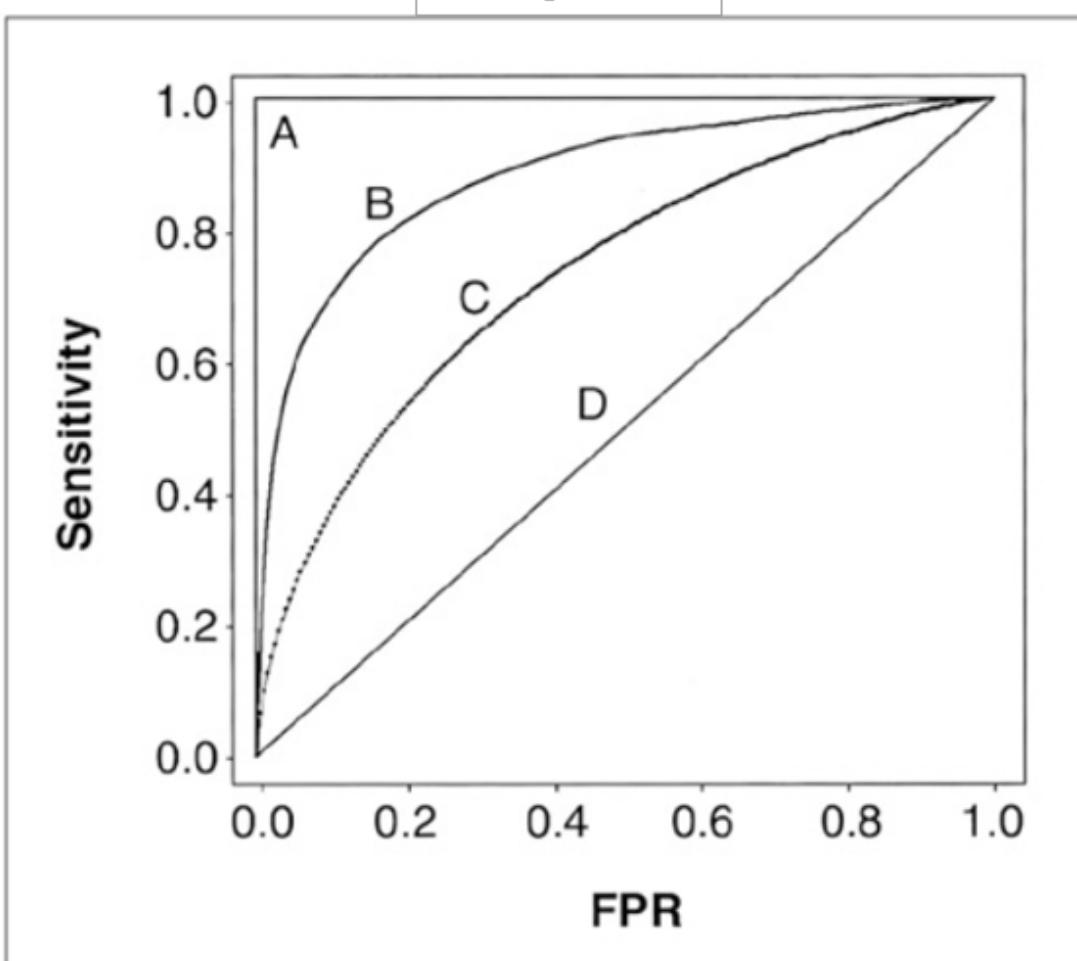
In this method, the training data is divided into k sets. These sets are called folds. The model is trained on all but one ($k - 1$) of the folds. The model is then validated on the rest of the data. The performance measure is the mean of the values calculated in a loop (scikit_learn.org, 2021). Below is an example of the split for 5-fold cross validation.



1.2.7 Receiver Operator Characteristic Curve and Area under Curve

The Receiver Operator Characteristic curve (*ROC*) is a graphical method used to measure the performance of a classifier. The ROC curve plots $1 - Specificity$ versus *Sensitivity*, also known as 1-false positive rate (*FPR*) versus the true positive rate (*TPR*). The Area Under Curve (*AUC*) can be defined as ability of a classifier to distinguish between classes. This statistic can be used to compare classifiers. An AUC from 0.9 to 1 is considered very good, 0.8 to 0.9 is good, 0.7 to 0.8 is fair, 0.6 to 0.7 is poor and anything below is a fail (Ekelund, 2021). Below is an example of an *ROC* curves with different *AUCs*.

Figure 8



(Zou et al., 2007)

Imports

```
In [ ]:  
# import libraries  
from sklearn.linear_model import LogisticRegression  
from sklearn.svm import SVC  
from sklearn.naive_bayes import GaussianNB  
from sklearn.ensemble import RandomForestClassifier  
from pandas import DataFrame  
from mlxtend.plotting import plot_decision_regions  
import matplotlib.pyplot as plt  
import numpy as np  
import pandas as pd  
from sklearn import datasets  
from sklearn.model_selection import train_test_split  
from sklearn.model_selection import StratifiedKFold  
from sklearn.model_selection import KFold  
from sklearn.metrics import accuracy_score  
from sklearn.datasets import make_classification  
from sklearn.datasets import make_blobs  
from sklearn.decomposition import PCA  
from sklearn import linear_model  
import seaborn as sns  
import warnings  
warnings.filterwarnings("ignore")  
from sklearn.metrics import f1_score  
from sklearn.metrics import precision_score  
from sklearn.metrics import recall_score
```

```
from sklearn.metrics import cohen_kappa_score
from sklearn.metrics import mean_squared_error
from sklearn.metrics import confusion_matrix
from sklearn.utils import shuffle
from sklearn.model_selection import cross_val_score
from sklearn.model_selection import KFold
from sklearn.metrics import classification_report
from sklearn.metrics import roc_auc_score
import sklearn.datasets
```

```
In [ ]: # Define the seed so that results can be reproduced
# use your lucky number
seed = 7
rand_state = 7
```

DATASETS

2. Synthetic Dataset

2.1 Data Preparation

```
In [ ]: # Dataset-1: SYNTHETIC
# create synthetic data

X1, y1 = make_classification(n_classes=3,
                             n_features=6,
                             n_samples=300,
                             n_redundant=0,
                             n_informative=6,
                             n_clusters_per_class=1,
                             random_state = seed
                             )

# create a data frame
synthetic = DataFrame(dict(x1=X1[:,0], x2=X1[:,1], x3=X1[:,2], x4=X1[:,3],
                           x5=X1[:,4], x6=X1[:,5], label = y1))
```

```
In [ ]: #showing the first 5 rows
synthetic.head(5)
```

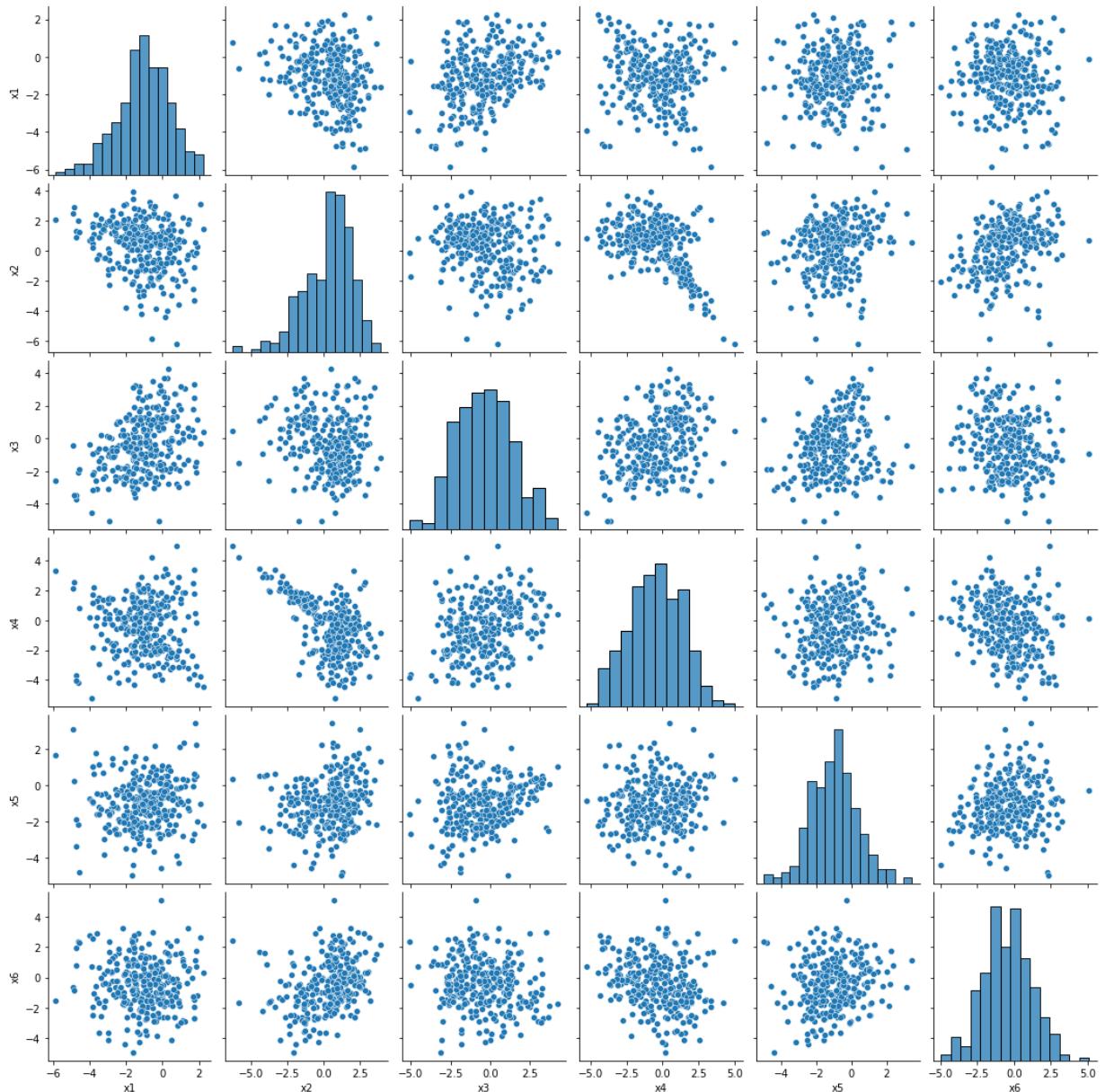
```
Out[ ]:   x1      x2      x3      x4      x5      x6  label
0 -0.097723  1.659871  0.906412 -1.813916  0.858581  1.009285    1
1 -4.628753  1.973272 -2.069502 -4.188755 -2.163342  2.343208    0
2 -2.790647  1.167947 -0.016581 -0.183682 -1.243643  0.338177    2
3 -3.525817 -0.286350 -1.845563  1.512049 -1.163141 -3.652299    1
4 -1.597015  0.886021 -1.313592 -0.597302  0.048861 -0.687302    1
```

```
In [ ]: #counting the data elements for each class
synthetic['label'].value_counts()
```

```
Out[ ]: 1      99  
0      99  
Name: label, dtype: int64
```

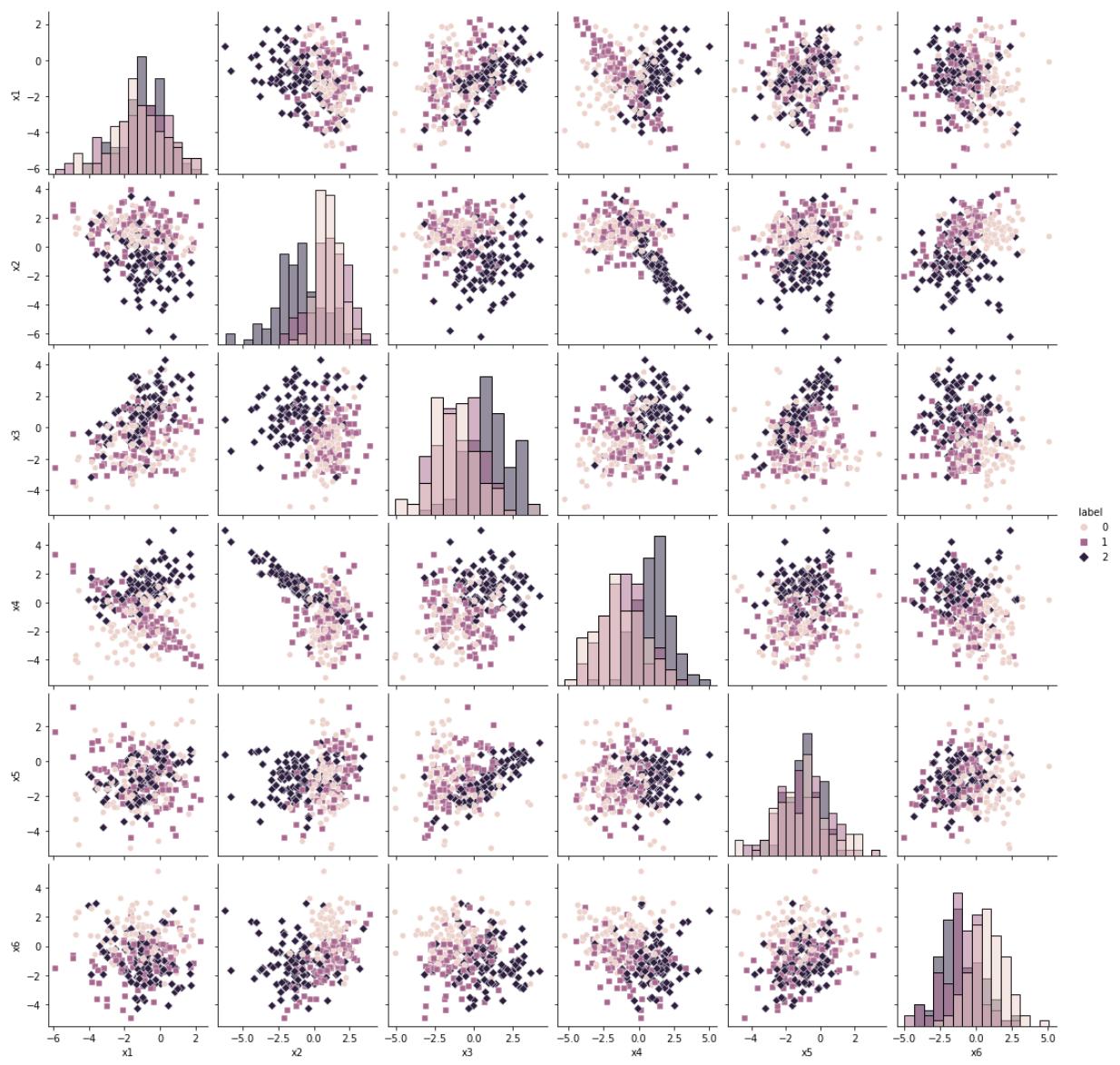
```
In [ ]: #Creating pairplots to show the Histograms & relationships between features  
sns.pairplot(synthetic, vars = ['x1', 'x2', 'x3', 'x4', 'x5', 'x6'])
```

```
Out[ ]: <seaborn.axisgrid.PairGrid at 0x7fa6f51e19d0>
```



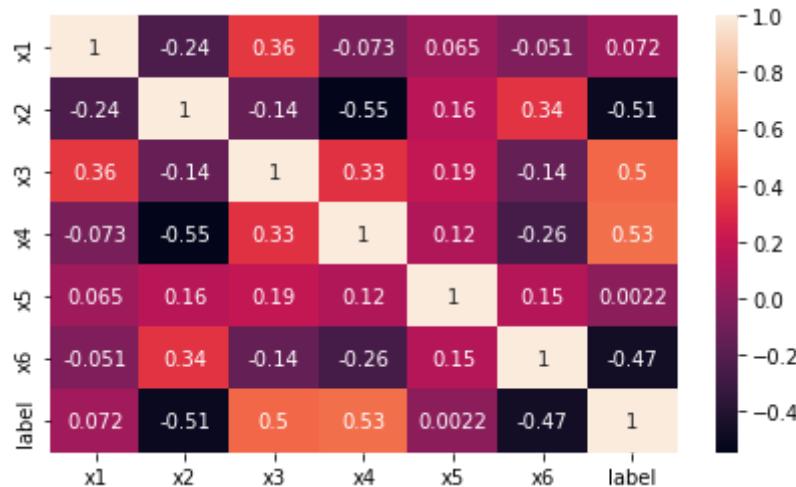
```
In [ ]: #Adding colour to help identify classes  
sns.pairplot(synthetic,  
             hue= 'label',  
             vars= ['x1', 'x2', 'x3', 'x4', 'x5', 'x6'],  
             diag_kind="hist",  
             markers=[ "o", "s", "D" ] )
```

```
Out[ ]: <seaborn.axisgrid.PairGrid at 0x7fa6f4018210>
```



```
In [ ]: #Correlation Matrix
corr = synthetic.corr()
fig, ax = plt.subplots(figsize=(7,4))
sns.heatmap(corr, annot=True, ax=ax)
```

Out[]: <matplotlib.axes._subplots.AxesSubplot at 0x7fa6f48922d0>



2.2 Logistic Regression

```
In [ ]: #Split the dataset into train-test
X1_train, X1_test, y1_train, y1_test = train_test_split(X1, y1, test_size=0.2, shuffle=True)

#Split the dataset into train-validation-test
X1_train, X1_val, y1_train, y1_val = train_test_split(X1_train, y1_train, test_size=0.2)
```

```
In [ ]: # Logistic Regression model
LR_model = LogisticRegression()

# Fit the Logistic regression model on the training sets for both X1 and y1
LR_model.fit(X1_train, y1_train)
```

```
Out[ ]: LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                           intercept_scaling=1, l1_ratio=None, max_iter=100,
                           multi_class='auto', n_jobs=None, penalty='l2',
                           random_state=None, solver='lbfgs', tol=0.0001, verbose=0,
                           warm_start=False)
```

```
In [ ]: # Find the score
LR_model.score(X1_train, y1_train)
```

```
Out[ ]: 0.8229166666666666
```

2.2.1 Predictions

```
In [ ]: # make predictions (assign class labels)
y1_pred = LR_model.predict(X1_test)
# show the inputs and predicted outputs
for i in range(len(X1_test)):
    print("X=%s, Class Predicted = %s" % (X1_test[i], y1_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, X1_test[i], y1_pred[i]))
```



```
X0 = [-0.75187726 -0.35764301 -2.42426591 -3.13029099 -3.27084163 0.14491591], Class Predicted = 0
X1 = [-0.28563328 0.44053033 1.07117361 -2.10791563 -1.30697737 -2.38963729], Class Predicted = 1
X2 = [-1.57344505 0.75197324 -1.77982294 -2.36700108 -1.18728904 1.86025791], Class Predicted = 0
X3 = [-3.41369469 1.26586111 -1.18292397 0.91097121 -0.52725808 -2.56871186], Class Predicted = 1
X4 = [-0.70195008 -1.86841318 0.60351241 1.77329308 -0.71305335 -0.66431094], Class Predicted = 2
X5 = [-0.14915175 0.42046536 -1.60780854 -1.31461435 -2.90850248 -1.75231376], Class Predicted = 1
X6 = [-2.01987664 -3.77896776 -2.58596184 1.9756922 -3.46134872 -1.67639727], Class Predicted = 2
X7 = [-3.48409482 0.91521098 -0.63831122 0.92662607 1.13422719 -1.67027046], Class Predicted = 2
X8 = [-2.40106385 1.66377595 -0.44253186 -2.05188352 -1.86398789 1.61916774], Class Predicted = 0
X9 = [-1.16737884 -0.99215638 0.91195441 1.02253829 -0.99983639 0.74675026], Class Predicted = 2
X10 = [-4.56880625 1.26406101 -1.90108552 0.8233436 -4.77912952 2.29675302], Class Predicted = 0
X11 = [-1.0652361 -2.6587621 -0.23292822 1.95386 -1.3840825 -0.47932438], Class Predicted = 2
X12 = [-3.8400943 0.18093006 -0.91721434 1.15426462 1.00621761 -2.50884237], Class Predicted = 2
X13 = [-0.87255901 0.72250376 -0.00752361 -1.29762805 -1.64339118 -2.33424668], Class Predicted = 1
X14 = [0.30825772 1.36196334 -2.75847916 -1.94837461 -2.67971007 0.02843786], Class Predicted = 0
```

```

X15 = [ 1.66593365 -2.51919446  1.79353361  2.483663  -0.02617542 -1.27700333], Class Predicted = 2
X16 = [-3.52581696 -0.28635   -1.84556341  1.51204885 -1.16314059 -3.65229902], Class Predicted = 2
X17 = [-1.92886241  1.5094967  -0.7566093  -4.00218163 -0.73375135  0.33518993], Class Predicted = 0
X18 = [ 2.27057756  1.44862538  0.40658106 -4.46638348 -2.19158949  0.29752086], Class Predicted = 0
X19 = [-2.34394846 -1.07087597  1.04447985  0.51901859 -1.98787649 -0.7326381 ], Class Predicted = 2
X20 = [-1.30919318 -2.62713788 -1.20874403  2.25598404 -2.19460867 -2.63348525], Class Predicted = 2
X21 = [-0.74326022  0.07451693 -0.10211664 -1.14364671 -1.194806  -1.80174605], Class Predicted = 1
X22 = [-0.24188851  1.13347966 -1.62409649 -1.89878648 -2.69585868 -1.44272191], Class Predicted = 1
X23 = [ 0.53296248  1.80701741  1.13647803 -3.15987424 -0.45752844 -0.07996381], Class Predicted = 1
X24 = [-2.94394091 -2.24773676 -0.97258803  1.52342781 -1.64361457  1.70861471], Class Predicted = 2
X25 = [-1.55758991  1.42479152  0.06820859 -1.70962823 -1.97304147  0.33843858], Class Predicted = 0
X26 = [-0.95080818 -0.60132573 -0.32708337 -0.72291316 -1.58560135 -2.75580287], Class Predicted = 1
X27 = [-1.9156977  1.66359368 -0.03320532 -0.5783946  -2.08064909  0.76981136], Class Predicted = 0
X28 = [ 0.74790723  0.59045183 -2.75232178 -2.39888791 -3.8488413  -0.99934968], Class Predicted = 1
X29 = [-1.59665023  1.4127186   0.31864532  1.42691269 -2.81129525 -0.19825664], Class Predicted = 2
X30 = [-1.41475224  0.11970062  0.8613191   0.39095319 -1.19581807 -0.97911296], Class Predicted = 2
X31 = [ 0.04160387 -1.47553939  1.42796881  0.94262436 -1.47956263 -2.60274322], Class Predicted = 2
X32 = [ 0.86014994  0.23622229 -1.1027039  -1.34574903 -0.71704747 -0.55611299], Class Predicted = 1
X33 = [ 0.58929552 -0.45608254 -1.59915338 -1.21625313 -2.50043338 -0.8012446 ], Class Predicted = 0
X34 = [-1.44820027  2.35288021 -1.83063508  0.00719207 -0.70533433  0.02184848], Class Predicted = 1
X35 = [-0.08008524 -0.81168488 -1.86754259  1.09975803 -4.57558289 -0.56411702], Class Predicted = 0
X36 = [-2.79064678  1.16794738 -0.01658064 -0.18368171 -1.24364331  0.33817693], Class Predicted = 2
X37 = [ 0.23461791 -0.48023453  1.20186335  0.91913413 -0.48600493 -1.01393164], Class Predicted = 2
X38 = [-2.11221697  0.96061422 -2.6353271   0.14125926 -1.77366997 -1.77365442], Class Predicted = 1
X39 = [ 1.88116399 -0.13291632 -1.47787207 -0.18238163  0.53934454  0.73099709], Class Predicted = 0
X40 = [-2.13776172  0.41555614  0.218609   0.19883812 -1.62372686 -1.22979339], Class Predicted = 2
X41 = [-4.86920098  2.87173656 -3.47542979  2.53540481  0.23467387 -0.8429555 ], Class Predicted = 1
X42 = [-0.43024728  0.92073338 -2.67414312 -3.72103295  2.15375012 -0.40883926], Class Predicted = 1
X43 = [-0.72598642  1.11027625 -0.59318717 -2.20055809 -0.78027632 -1.29510193], Class Predicted = 1
X44 = [ 0.02242267 -1.09675022  1.7485904   1.31417589 -0.59027721 -1.74866363], Class Predicted = 2
X45 = [ 0.32780965  2.40929523 -0.39140494 -2.37990382  0.18438154  1.55534175], Class Predicted = 0
X46 = [-1.4985683  1.47473314  0.45235002 -0.62335891  0.81211887 -0.35092357], Class Predicted = 1
X47 = [-3.03184873  1.93915762  0.15078823 -1.29900263 -1.39208535  0.45175066], Class Predicted = 0
X48 = [-1.23896416  0.06559347  1.81088039  0.23552586 -0.76420403 -2.01254176], Class Predicted = 2
X49 = [-0.49683126 -0.65160637  0.96914399  0.7514756  -1.21716881 -2.55602789], Class Predicted = 1

```

```

ss Predicted = 2
X50 = [-1.19067276  1.05276311 -1.90493792 -1.22642993  0.51564521  1.94235363], Cla
ss Predicted = 0
X51 = [-0.10631523 -1.57707534  2.89659296  1.86437076  0.43449061 -1.00089651], Cla
ss Predicted = 2
X52 = [-2.4974544   -0.80161605  1.00541341  0.48173608 -1.26411848 -0.20148729], Cla
ss Predicted = 2
X53 = [-0.66948012 -1.76478292  0.8244725   1.29249965 -0.96277797 -1.538516  ], Cla
ss Predicted = 2
X54 = [-1.59164397 -0.6518805   0.59084809  0.89618008 -1.10490158 -0.09477433], Cla
ss Predicted = 2
X55 = [ 0.90301336 -0.73159932 -2.94565725 -2.01493325 -4.24610962 -1.68603678], Cla
ss Predicted = 1
X56 = [-2.13231863 -1.13754017 -2.36606899  1.42883916 -0.68595586 -1.57383524], Cla
ss Predicted = 2
X57 = [-0.88535076 -0.39918985  0.21763722  0.33316666 -2.27549431 -2.69933915], Cla
ss Predicted = 2
X58 = [ 0.98668495  1.29221392  1.77300524  1.15327786 -0.90046338  1.60150807], Cla
ss Predicted = 0
X59 = [ 0.2626349   0.64117568  2.46314328 -2.53188339  0.89104386 -0.31561807], Cla
ss Predicted = 1

```

2.2.2 Score

```
In [ ]: # Find the score
LR_model.score(X1_test,y1_test)
```

```
Out[ ]: 0.7666666666666667
```

2.2.3 R-Squared

```
In [ ]: # Find R squared
correlation_matrix = np.corrcoef(y1_test, y1_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.48839150139672793
```

```
In [ ]: # create a data frame
synthetic_new = DataFrame(dict(X1_test=X1_test[:,0], x2_new=X1_test[:,1], x3_new=X1_
                               x4_new=X1_test[:,3], x5_new=X1_test[:,4],
                               x6_new=X1_test[:,5], label=y1_pred))
```

```
In [ ]: # show first rows
synthetic_new.head()
```

	X1_test	x2_new	x3_new	x4_new	x5_new	x6_new	label
0	-0.751877	-0.357643	-2.424266	-3.130291	-3.270842	0.144916	0
1	-0.285633	0.440530	1.071174	-2.107916	-1.306977	-2.389637	1
2	-1.573445	0.751973	-1.779823	-2.367001	-1.187289	1.860258	0
3	-3.413695	1.265861	-1.182924	0.910971	-0.527258	-2.568712	1
4	-0.701950	-1.868413	0.603512	1.773293	-0.713053	-0.664311	2

2.2.4 Metrics and scoring

```
In [ ]: accuracy_score(y1_test, y1_pred)
```

```
Out[ ]: 0.7666666666666667
```

```
In [ ]: print(f1_score(y1_test, y1_pred, average='macro'))
print(f1_score(y1_test, y1_pred, average='micro'))
print(f1_score(y1_test, y1_pred, average='weighted'))
```

```
0.7518389469608983
```

```
0.7666666666666667
```

```
0.764614789005033
```

```
In [ ]: print(precision_score(y1_test, y1_pred, average='macro'))
print(precision_score(y1_test, y1_pred, average='micro'))
print(precision_score(y1_test, y1_pred, average='weighted'))
```

```
0.7553418803418804
```

```
0.7666666666666667
```

```
0.7748931623931624
```

```
In [ ]: print(recall_score(y1_test, y1_pred, average='macro'))
print(recall_score(y1_test, y1_pred, average='micro'))
print(recall_score(y1_test, y1_pred, average='weighted'))
```

```
0.7598343685300207
```

```
0.7666666666666667
```

```
0.7666666666666667
```

```
In [ ]: cohen_kappa_score(y1_test, y1_pred)
```

```
Out[ ]: 0.6446700507614214
```

```
In [ ]: mse = mean_squared_error(y1_test, y1_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.62
```

2.2.5 Confusion Matrix

```
In [ ]: cm = confusion_matrix(y1_test, y1_pred)
print(cm)
```

```
[[10  3  1]
 [ 4 15  4]
 [ 2  0 21]]
```

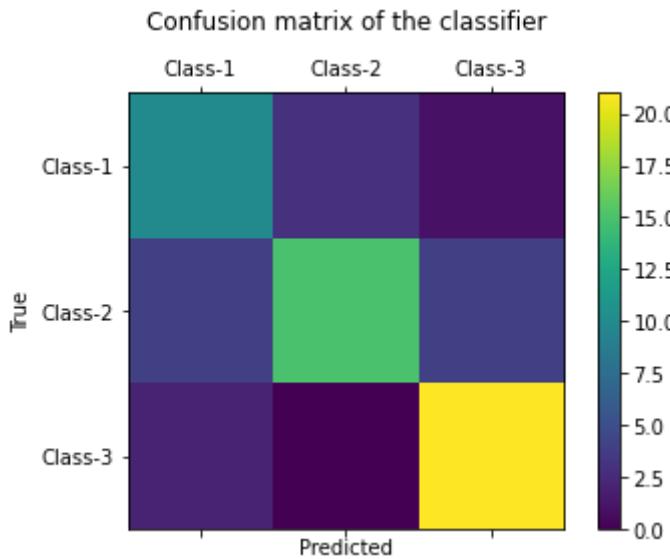
```
In [ ]: labels = ['Class-1','Class-2','Class-3']
```

```
fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(cm)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
```

```

ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()

```



2.2.6 Cross-validation

```
In [ ]: X1_shuffle, y1_shuffle = shuffle(X1, y1, random_state=7)
```

```
In [ ]: scores = cross_val_score(LR_model, X1_shuffle, y1_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.58 0.55 0.48 0.48 0.48]
RMSE average: 0.5148421002627471

2.2.7 K-fold

```
In [ ]: # define the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfold.split(X1):
    print("Train: %s\nTest: %s\n" % (train, test))
```

```

Train: [ 0  1  2  3  4  6  9 10 11 13 14 16 17 18 19 21 23 24
      25 28 29 30 31 32 33 35 36 37 38 39 40 41 42 43 44 47
      48 49 50 51 53 54 56 57 58 60 61 62 65 67 68 69 70 71
      72 75 76 77 78 79 80 82 83 84 85 86 87 88 91 93 94 95
      96 97 98 99 100 101 102 104 105 107 109 110 112 113 114 115 117 118
     119 120 121 123 125 126 127 128 130 131 132 133 135 137 138 140 141 142
     143 146 147 148 149 151 152 154 155 157 158 159 160 161 162 163 165 166
     167 169 170 171 172 174 175 177 178 179 180 181 183 185 186 187 189 191
     192 193 195 196 197 198 199 200 201 202 203 204 205 207 209 210 211 212
     214 215 216 217 218 220 225 226 227 231 232 233 235 237 238 240 241 242
     243 244 245 246 247 249 250 251 254 255 256 257 258 259 260 261 262 263
     264 265 266 267 268 269 271 272 274 275 276 277 278 279 280 281 282 283
     287 288 289 291 292 294 296 297 298]
Test: [ 5  7  8 12 15 20 22 26 27 34 45 46 52 55 59 63 64 66
       73 74 81 89 90 92 103 106 108 111 116 122 124 129 134 136 139 144

```

```
145 150 153 156 164 168 173 176 182 184 188 190 194 206 208 213 219 221  
222 223 224 228 229 230 234 236 239 248 252 253 270 273 284 285 286 290  
293 295 299]
```

```
Train: [ 0   1   2   5   6   7   8   9   10  11  12  14  15  17  19  20  22  23  
25  26  27  28  31  32  34  35  36  38  39  41  42  43  45  46  47  48  
49  50  51  52  53  55  57  58  59  62  63  64  65  66  68  69  70  72  
73  74  78  79  80  81  82  84  85  86  87  88  89  90  91  92  93  94  
95  98  99  100 102 103 104 105 106 108 111 112 113 114 115 116 117 119  
120 121 122 123 124 127 128 129 130 131 132 133 134 136 138 139 140 141  
142 143 144 145 147 148 149 150 151 153 155 156 162 163 164 165 168 169  
170 172 173 174 176 177 178 179 180 182 183 184 185 186 187 188 190 192  
193 194 195 196 197 199 200 202 203 204 206 207 208 209 210 211 213 216  
217 218 219 221 222 223 224 226 228 229 230 231 232 233 234 235 236 239  
240 241 242 243 244 246 247 248 251 252 253 254 256 257 258 260 261 263  
265 266 267 269 270 271 273 274 275 276 277 278 283 284 285 286 287 289  
290 292 293 294 295 296 297 298 299]  
Test: [ 3   4   13  16  18  21  24  29  30  33  37  40  44  54  56  60  61  67  
71  75  76  77  83  96  97 101 107 109 110 118 125 126 135 137 146 152  
154 157 158 159 160 161 166 167 171 175 181 189 191 198 201 205 212 214  
215 220 225 227 237 238 245 249 250 255 259 262 264 268 272 279 280 281  
282 288 291]
```

```
Train: [ 1   3   4   5   7   8   9   11  12  13  15  16  17  18  20  21  22  24  
25  26  27  28  29  30  31  32  33  34  35  37  38  39  40  42  44  45  
46  47  52  53  54  55  56  57  59  60  61  63  64  65  66  67  70  71  
72  73  74  75  76  77  79  81  82  83  87  88  89  90  91  92  96  97  
99 101 102 103 105 106 107 108 109 110 111 115 116 117 118 119 120 121  
122 124 125 126 127 128 129 132 133 134 135 136 137 139 140 142 144 145  
146 147 150 151 152 153 154 156 157 158 159 160 161 163 164 165 166 167  
168 169 170 171 172 173 174 175 176 177 181 182 183 184 185 186 188 189  
190 191 192 193 194 195 197 198 201 202 205 206 208 211 212 213 214 215  
219 220 221 222 223 224 225 227 228 229 230 231 232 234 236 237 238 239  
242 243 244 245 248 249 250 251 252 253 255 256 257 258 259 262 263 264  
265 268 269 270 271 272 273 274 276 277 278 279 280 281 282 283 284 285  
286 287 288 289 290 291 293 295 299]  
Test: [ 0   2   6   10  14  19  23  36  41  43  48  49  50  51  58  62  68  69  
78  80  84  85  86  93  94  95  98 100 104 112 113 114 123 130 131 138  
141 143 148 149 155 162 178 179 180 187 196 199 200 203 204 207 209 210  
216 217 218 226 233 235 240 241 246 247 254 260 261 266 267 275 292 294  
296 297 298]
```

```
Train: [ 0   2   3   4   5   6   7   8   10  12  13  14  15  16  18  19  20  21  
22  23  24  26  27  29  30  33  34  36  37  40  41  43  44  45  46  48  
49  50  51  52  54  55  56  58  59  60  61  62  63  64  66  67  68  69  
71  73  74  75  76  77  78  80  81  83  84  85  86  89  90  92  93  94  
95  96  97  98 100 101 103 104 106 107 108 109 110 111 112 113 114 116  
118 122 123 124 125 126 129 130 131 134 135 136 137 138 139 141 143 144  
145 146 148 149 150 152 153 154 155 156 157 158 159 160 161 162 164 166  
167 168 171 173 175 176 178 179 180 181 182 184 187 188 189 190 191 194  
196 198 199 200 201 203 204 205 206 207 208 209 210 212 213 214 215 216  
217 218 219 220 221 222 223 224 225 226 227 228 229 230 233 234 235 236  
237 238 239 240 241 245 246 247 248 249 250 252 253 254 255 259 260 261  
262 264 266 267 268 270 272 273 275 279 280 281 282 284 285 286 288 290  
291 292 293 294 295 296 297 298 299]  
Test: [ 1   9   11  17  25  28  31  32  35  38  39  42  47  53  57  65  70  72  
79  82  87  88  91  99 102 105 115 117 119 120 121 127 128 132 133 140  
142 147 151 163 165 169 170 172 174 177 183 185 186 192 193 195 197 202  
211 231 232 242 243 244 251 256 257 258 263 265 269 271 274 276 277 278  
283 287 289]
```

In []:

```
# Output the accuracy  
results = cross_val_score(LR_model, X1_train, y1_train, cv=kfold)  
print('Results from all folds: ', results)
```

```
Results from all folds: [0.75          0.83333333 0.72916667 0.77083333]
```

```
In [ ]: # print the mean and std across all folds
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

```
Accuracy: 77.083% (3.898%)
```

2.2.8 Area Under the Receiver Operating Characteristic Curve (ROC AUC)

```
In [ ]: roc_auc_score(y1_train, LR_model.predict_proba(X1_train), multi_class='ovr')
```

```
Out[ ]: 0.9344970050689207
```

2.3 Support vector Machine

```
In [ ]: # Support Vector Machine (SVM)
svm = SVC(C=0.5, kernel='linear', probability=True)
# fit the model
svm.fit(X1_train, y1_train)
```

```
Out[ ]: SVC(C=0.5, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
            decision_function_shape='ovr', degree=3, gamma='scale', kernel='linear',
            max_iter=-1, probability=True, random_state=None, shrinking=True, tol=0.001,
            verbose=False)
```

```
In [ ]: # model score in training
svm.score(X1_train, y1_train)
```

```
Out[ ]: 0.895833333333334
```

2.3.1 Predictions

```
In [ ]: # make predictions (assign class labels)
y1_pred = svm.predict(X1_test)
# show the inputs and predicted outputs
for i in range(len(X1_test)):
    #print("X=%s, Class Predicted = %s" % (X1_test[i], y1_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, X1_test[i], y1_pred[i]))
```

```
X0 = [-0.75187726 -0.35764301 -2.42426591 -3.13029099 -3.27084163 0.14491591], Clas
s Predicted = 0
X1 = [-0.28563328 0.44053033 1.07117361 -2.10791563 -1.30697737 -2.38963729], Clas
s Predicted = 1
X2 = [-1.57344505 0.75197324 -1.77982294 -2.36700108 -1.18728904 1.86025791], Clas
s Predicted = 0
X3 = [-3.41369469 1.26586111 -1.18292397 0.91097121 -0.52725808 -2.56871186], Clas
s Predicted = 1
X4 = [-0.70195008 -1.86841318 0.60351241 1.77329308 -0.71305335 -0.66431094], Clas
s Predicted = 2
X5 = [-0.14915175 0.42046536 -1.60780854 -1.31461435 -2.90850248 -1.75231376], Clas
s Predicted = 1
X6 = [-2.01987664 -3.77896776 -2.58596184 1.9756922 -3.46134872 -1.67639727], Clas
s Predicted = 2
X7 = [-3.48409482 0.91521098 -0.63831122 0.92662607 1.13422719 -1.67027046], Clas
s Predicted = 1
X8 = [-2.40106385 1.66377595 -0.44253186 -2.05188352 -1.86398789 1.61916774], Clas
s Predicted = 0
X9 = [-1.16737884 -0.99215638 0.91195441 1.02253829 -0.99983639 0.74675026], Clas
s Predicted = 2
```

```

X10 = [-4.56880625  1.26406101 -1.90108552  0.8233436 -4.77912952  2.29675302], Cla
ss Predicted = 0
X11 = [-1.0652361 -2.6587621 -0.23292822  1.95386 -1.3840825 -0.47932438], Cla
ss Predicted = 2
X12 = [-3.8400943  0.18093006 -0.91721434  1.15426462  1.00621761 -2.50884237], Cla
ss Predicted = 1
X13 = [-0.87255901  0.72250376 -0.00752361 -1.29762805 -1.64339118 -2.33424668], Cla
ss Predicted = 1
X14 = [ 0.30825772  1.36196334 -2.75847916 -1.94837461 -2.67971007  0.02843786], Cla
ss Predicted = 1
X15 = [ 1.66593365 -2.51919446  1.79353361  2.483663 -0.02617542 -1.27700333], Cla
ss Predicted = 2
X16 = [-3.52581696 -0.28635 -1.84556341  1.51204885 -1.16314059 -3.65229902], Cla
ss Predicted = 1
X17 = [-1.92886241  1.5094967 -0.7566093 -4.00218163 -0.73375135  0.33518993], Cla
ss Predicted = 0
X18 = [ 2.27057756  1.44862538  0.40658106 -4.46638348 -2.19158949  0.29752086], Cla
ss Predicted = 1
X19 = [-2.34394846 -1.07087597  1.04447985  0.51901859 -1.98787649 -0.7326381 ], Cla
ss Predicted = 2
X20 = [-1.30919318 -2.62713788 -1.20874403  2.25598404 -2.19460867 -2.63348525], Cla
ss Predicted = 2
X21 = [-0.74326022  0.07451693 -0.10211664 -1.14364671 -1.194806 -1.80174605], Cla
ss Predicted = 1
X22 = [-0.24188851  1.13347966 -1.62409649 -1.89878648 -2.69585868 -1.44272191], Cla
ss Predicted = 1
X23 = [ 0.53296248  1.80701741  1.13647803 -3.15987424 -0.45752844 -0.07996381], Cla
ss Predicted = 1
X24 = [-2.94394091 -2.24773676 -0.97258803  1.52342781 -1.64361457  1.70861471], Cla
ss Predicted = 2
X25 = [-1.55758991  1.42479152  0.06820859 -1.70962823 -1.97304147  0.33843858], Cla
ss Predicted = 0
X26 = [-0.95080818 -0.60132573 -0.32708337 -0.72291316 -1.58560135 -2.75580287], Cla
ss Predicted = 1
X27 = [-1.9156977  1.66359368 -0.03320532 -0.5783946 -2.08064909  0.76981136], Cla
ss Predicted = 0
X28 = [ 0.74790723  0.59045183 -2.75232178 -2.39888791 -3.8488413 -0.99934968], Cla
ss Predicted = 1
X29 = [-1.59665023  1.4127186  0.31864532  1.42691269 -2.81129525 -0.19825664], Cla
ss Predicted = 0
X30 = [-1.41475224  0.11970062  0.8613191  0.39095319 -1.19581807 -0.97911296], Cla
ss Predicted = 2
X31 = [ 0.04160387 -1.47553939  1.42796881  0.94262436 -1.47956263 -2.60274322], Cla
ss Predicted = 2
X32 = [ 0.86014994  0.23622229 -1.1027039 -1.34574903 -0.71704747 -0.55611299], Cla
ss Predicted = 1
X33 = [ 0.58929552 -0.45608254 -1.59915338 -1.21625313 -2.50043338 -0.8012446 ], Cla
ss Predicted = 0
X34 = [-1.44820027  2.35288021 -1.83063508  0.00719207 -0.70533433  0.02184848], Cla
ss Predicted = 1
X35 = [-0.08008524 -0.81168488 -1.86754259  1.09975803 -4.57558289 -0.56411702], Cla
ss Predicted = 0
X36 = [-2.79064678  1.16794738 -0.01658064 -0.18368171 -1.24364331  0.33817693], Cla
ss Predicted = 2
X37 = [ 0.23461791 -0.48023453  1.20186335  0.91913413 -0.48600493 -1.01393164], Cla
ss Predicted = 2
X38 = [-2.11221697  0.96061422 -2.6353271  0.14125926 -1.77366997 -1.77365442], Cla
ss Predicted = 1
X39 = [ 1.88116399 -0.13291632 -1.47787207 -0.18238163  0.53934454  0.73099709], Cla
ss Predicted = 0
X40 = [-2.13776172  0.41555614  0.218609  0.19883812 -1.62372686 -1.22979339], Cla
ss Predicted = 2
X41 = [-4.86920098  2.87173656 -3.47542979  2.53540481  0.23467387 -0.8429555 ], Cla
ss Predicted = 1
X42 = [-0.43024728  0.92073338 -2.67414312 -3.72103295  2.15375012 -0.40883926], Cla
ss Predicted = 0
X43 = [-0.72598642  1.11027625 -0.59318717 -2.20055809 -0.78027632 -1.29510193], Cla
ss Predicted = 1
X44 = [ 0.02242267 -1.09675022  1.7485904  1.31417589 -0.59027721 -1.74866363], Cla

```

```
ss Predicted = 2
X45 = [ 0.32780965  2.40929523 -0.39140494 -2.37990382  0.18438154  1.55534175], Cla
ss Predicted = 0
X46 = [-1.4985683   1.47473314  0.45235002 -0.62335891  0.81211887 -0.35092357], Cla
ss Predicted = 1
X47 = [-3.03184873  1.93915762  0.15078823 -1.29900263 -1.39208535  0.45175066], Cla
ss Predicted = 0
X48 = [-1.23896416  0.06559347  1.81088039  0.23552586 -0.76420403 -2.01254176], Cla
ss Predicted = 2
X49 = [-0.49683126 -0.65160637  0.96914399  0.7514756  -1.21716881 -2.55602789], Cla
ss Predicted = 2
X50 = [-1.19067276  1.05276311 -1.90493792 -1.22642993  0.51564521  1.94235363], Cla
ss Predicted = 0
X51 = [-0.10631523 -1.57707534  2.89659296  1.86437076  0.43449061 -1.00089651], Cla
ss Predicted = 2
X52 = [-2.4974544   -0.80161605  1.00541341  0.48173608 -1.26411848 -0.20148729], Cla
ss Predicted = 2
X53 = [-0.66948012 -1.76478292  0.8244725   1.29249965 -0.96277797 -1.538516  ], Cla
ss Predicted = 2
X54 = [-1.59164397 -0.6518805   0.59084809  0.89618008 -1.10490158 -0.09477433], Cla
ss Predicted = 2
X55 = [ 0.90301336 -0.73159932 -2.94565725 -2.01493325 -4.24610962 -1.68603678], Cla
ss Predicted = 1
X56 = [-2.13231863 -1.13754017 -2.36606899  1.42883916 -0.68595586 -1.57383524], Cla
ss Predicted = 0
X57 = [-0.88535076 -0.39918985  0.21763722  0.33316666 -2.27549431 -2.69933915], Cla
ss Predicted = 2
X58 = [ 0.98668495  1.29221392  1.77300524  1.15327786 -0.90046338  1.60150807], Cla
ss Predicted = 0
X59 = [ 0.2626349   0.64117568  2.46314328 -2.53188339  0.89104386 -0.31561807], Cla
ss Predicted = 1
```

```
In [ ]: svm.score(X1_test,y1_test)
```

```
Out[ ]: 0.8833333333333333
```

```
In [ ]: # Find R squared
correlation_matrix = np.corrcoef(y1_test, y1_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.687009054460572
```

2.3.2 Metrics and scoring

```
In [ ]: accuracy_score(y1_test, y1_pred)
```

```
Out[ ]: 0.8833333333333333
```

```
In [ ]: print(f1_score(y1_test, y1_pred, average='macro'))
print(f1_score(y1_test, y1_pred, average='micro'))
print(f1_score(y1_test, y1_pred, average='weighted'))
```

```
0.8725426306071468
0.8833333333333333
0.8872949929401542
```

```
In [ ]: print(precision_score(y1_test, y1_pred, average='macro'))
print(precision_score(y1_test, y1_pred, average='micro'))
```

```
print(precision_score(y1_test, y1_pred, average='weighted'))
```

```
0.8716577540106952  
0.8833333333333333  
0.8965240641711231
```

```
In [ ]: print(recall_score(y1_test, y1_pred, average='macro'))  
print(recall_score(y1_test, y1_pred, average='micro'))  
print(recall_score(y1_test, y1_pred, average='weighted'))
```

```
0.8799171842650103  
0.8833333333333333  
0.8833333333333333
```

```
In [ ]: cohen_kappa_score(y1_test, y1_pred)
```

```
Out[ ]: 0.8230088495575221
```

```
In [ ]: mse = mean_squared_error(y1_test, y1_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

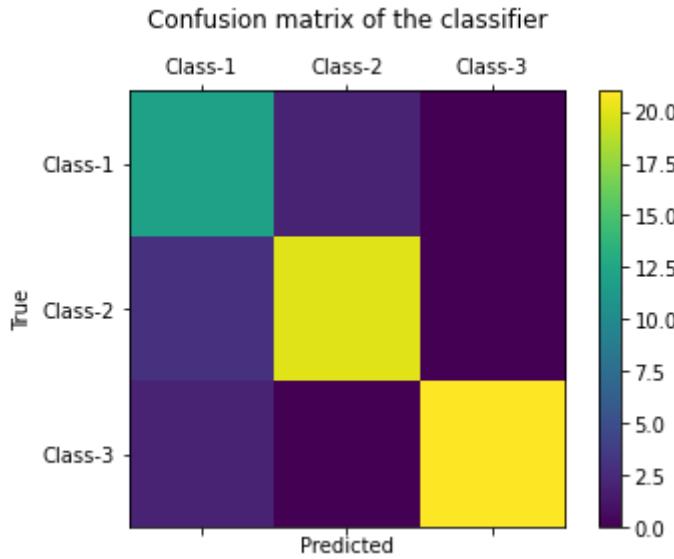
```
RMSE:  0.47
```

2.3.3 Confusion Matrix

```
In [ ]: cm = confusion_matrix(y1_test, y1_pred)  
print(cm)
```

```
[[12  2  0]  
 [ 3 20  0]  
 [ 2  0 21]]
```

```
In [ ]: labels = ['Class-1','Class-2','Class-3']  
  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(cm)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



2.3.4 Cross-validation

```
In [ ]: X1_shuffle, y1_shuffle = shuffle(X1, y1, random_state=seed)
```

```
In [ ]: scores = cross_val_score(svm, X1_shuffle, y1_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.45 0.37 0.41 0.47 0.43]
RMSE average: 0.42285186900968014

2.3.5 K-fold

```
In [ ]: # define the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfold.split(X1):
    print("Train: %s \nTest: %s\n" % (train, test))
```

Train:	[0 1 2 3 4 6 9 10 11 13 14 16 17 18 19 21 23 24
	25 28 29 30 31 32 33 35 36 37 38 39 40 41 42 43 44 47
	48 49 50 51 53 54 56 57 58 60 61 62 65 67 68 69 70 71
	72 75 76 77 78 79 80 82 83 84 85 86 87 88 91 93 94 95
	96 97 98 99 100 101 102 104 105 107 109 110 112 113 114 115 117 118
	119 120 121 123 125 126 127 128 130 131 132 133 135 137 138 140 141 142

```

143 146 147 148 149 151 152 154 155 157 158 159 160 161 162 163 165 166
167 169 170 171 172 174 175 177 178 179 180 181 183 185 186 187 189 191
192 193 195 196 197 198 199 200 201 202 203 204 205 207 209 210 211 212
214 215 216 217 218 220 225 226 227 231 232 233 235 237 238 240 241 242
243 244 245 246 247 249 250 251 254 255 256 257 258 259 260 261 262 263
264 265 266 267 268 269 271 272 274 275 276 277 278 279 280 281 282 283
287 288 289 291 292 294 296 297 298]

```

```

Test: [ 5   7   8   12  15  20  22  26  27  34  45  46  52  55  59  63  64  66
    73  74  81  89  90  92 103 106 108 111 116 122 124 129 134 136 139 144
  145 150 153 156 164 168 173 176 182 184 188 190 194 206 208 213 219 221
  222 223 224 228 229 230 234 236 239 248 252 253 270 273 284 285 286 290
  293 295 299]

```

```

Train: [  0   1   2   5   6   7   8   9   10  11  12  14  15  17  19  20  22  23
    25  26  27  28  31  32  34  35  36  38  39  41  42  43  45  46  47  48
    49  50  51  52  53  55  57  58  59  62  63  64  65  66  68  69  70  72
    73  74  78  79  80  81  82  84  85  86  87  88  89  90  91  92  93  94
    95  98  99 100 102 103 104 105 106 108 111 112 113 114 115 116 117 119
  120 121 122 123 124 127 128 129 130 131 132 133 134 136 138 139 140 141
  142 143 144 145 147 148 149 150 151 153 155 156 162 163 164 165 168 169
  170 172 173 174 176 177 178 179 180 182 183 184 185 186 187 188 190 192
  193 194 195 196 197 199 200 202 203 204 206 207 208 209 210 211 213 216
  217 218 219 221 222 223 224 226 228 229 230 231 232 233 234 235 236 239
  240 241 242 243 244 246 247 248 251 252 253 254 256 257 258 260 261 263
  265 266 267 269 270 271 273 274 275 276 277 278 283 284 285 286 287 289
  290 292 293 294 295 296 297 298 299]

```

```

Test: [  3   4   13  16  18  21  24  29  30  33  37  40  44  54  56  60  61  67
    71  75  76  77  83  96  97 101 107 109 110 118 125 126 135 137 146 152
  154 157 158 159 160 161 166 167 171 175 181 189 191 198 201 205 212 214
  215 220 225 227 237 238 245 249 250 255 259 262 264 268 272 279 280 281
  282 288 291]

```

```

Train: [  1   3   4   5   7   8   9   11  12  13  15  16  17  18  20  21  22  24
    25  26  27  28  29  30  31  32  33  34  35  37  38  39  40  42  44  45
    46  47  52  53  54  55  56  57  59  60  61  63  64  65  66  67  70  71
    72  73  74  75  76  77  79  81  82  83  87  88  89  90  91  92  96  97
    99 101 102 103 105 106 107 108 109 110 111 115 116 117 118 119 120 121
  122 124 125 126 127 128 129 132 133 134 135 136 137 139 140 142 144 145
  146 147 150 151 152 153 154 156 157 158 159 160 161 163 164 165 166 167
  168 169 170 171 172 173 174 175 176 177 181 182 183 184 185 186 188 189
  190 191 192 193 194 195 197 198 201 202 205 206 208 211 212 213 214 215
  219 220 221 222 223 224 225 227 228 229 230 231 232 234 236 237 238 239
  242 243 244 245 248 249 250 251 252 253 255 256 257 258 259 262 263 264
  265 268 269 270 271 272 273 274 276 277 278 279 280 281 282 283 284 285
  286 287 288 289 290 291 293 295 299]

```

```

Test: [  0   2   6   10  14  19  23  36  41  43  48  49  50  51  58  62  68  69
    78  80  84  85  86  93  94  95  98 100 104 112 113 114 123 130 131 138
  141 143 148 149 155 162 178 179 180 187 196 199 200 203 204 207 209 210
  216 217 218 226 233 235 240 241 246 247 254 260 261 266 267 275 292 294
  296 297 298]

```

```

Train: [  0   2   3   4   5   6   7   8   10  12  13  14  15  16  18  19  20  21
    22  23  24  26  27  29  30  33  34  36  37  40  41  43  44  45  46  48
    49  50  51  52  54  55  56  58  59  60  61  62  63  64  66  67  68  69
    71  73  74  75  76  77  78  80  81  83  84  85  86  89  90  92  93  94
    95  96  97  98 100 101 103 104 106 107 108 109 110 111 112 113 114 116
  118 122 123 124 125 126 129 130 131 134 135 136 137 138 139 141 143 144
  145 146 148 149 150 152 153 154 155 156 157 158 159 160 161 162 164 166
  167 168 171 173 175 176 178 179 180 181 182 184 187 188 189 190 191 194
  196 198 199 200 201 203 204 205 206 207 208 209 210 212 213 214 215 216
  217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 234 235 236
  237 238 239 240 241 245 246 247 248 249 250 252 253 254 255 259 260 261
  262 264 266 267 268 270 272 273 275 276 277 278 279 280 281 282 284 285
  286 287 288 289 290 291 293 295 296 297 298 299]

```

```

Test: [  1   9   11  17  25  28  31  32  35  38  39  42  47  53  57  65  70  72
    79  82  87  88  91  99 102 105 115 117 119 120 121 127 128 132 133 140
  142 147 151 163 165 169 170 172 174 177 183 185 186 192 193 195 197 202
  211 231 232 242 243 244 251 256 257 258 263 265 269 271 274 276 277 278

```

```
283 287 289]
```

```
In [ ]:
```

```
# Output the accuracy
results = cross_val_score(svm, X1_train, y1_train, cv=kfold)
print('Results from all folds: ', results)
```

```
Results from all folds: [0.83333333 0.91666667 0.85416667 0.85416667]
```

```
In [ ]:
```

```
# print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))
```

```
Accuracy: 86.458% (3.125%)
```

2.3.6 Area Under the Receiver Operating Characteristic Curve (ROC AUC)

```
In [ ]:
```

```
roc_auc_score(y1_train, svm.predict_proba(X1_train), multi_class='ovr')
```

```
Out[ ]: 0.9768672683913749
```

2.4 Gaussian Naive Bayes

```
In [ ]:
```

```
# Gaussian Naive Bayes (GaussianNB)
NB = GaussianNB()
# fit the model
NB.fit(X1_train, y1_train)
```

```
Out[ ]: GaussianNB(priors=None, var_smoothing=1e-09)
```

```
In [ ]:
```

```
# model score in training
NB.score(X1_train, y1_train)
```

```
Out[ ]: 0.7604166666666666
```

2.4.1 Predictions

```
In [ ]:
```

```
# make predictions (assign class labels)
y1_pred = NB.predict(X1_test)
# show the inputs and predicted outputs
for i in range(len(X1_test)):
    #print("X=%s, Class Predicted = %s" % (X1_test[i], y1_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, X1_test[i], y1_pred[i]))
```

```
X0 = [-0.75187726 -0.35764301 -2.42426591 -3.13029099 -3.27084163 0.14491591], Clas
s Predicted = 0
X1 = [-0.28563328 0.44053033 1.07117361 -2.10791563 -1.30697737 -2.38963729], Clas
s Predicted = 1
X2 = [-1.57344505 0.75197324 -1.77982294 -2.36700108 -1.18728904 1.86025791], Clas
s Predicted = 0
X3 = [-3.41369469 1.26586111 -1.18292397 0.91097121 -0.52725808 -2.56871186], Clas
s Predicted = 1
X4 = [-0.70195008 -1.86841318 0.60351241 1.77329308 -0.71305335 -0.66431094], Clas
s Predicted = 2
X5 = [-0.14915175 0.42046536 -1.60780854 -1.31461435 -2.90850248 -1.75231376], Clas
s Predicted = 1
```

X6 = [-2.01987664 -3.77896776 -2.58596184 1.9756922 -3.46134872 -1.67639727], Class Predicted = 2
X7 = [-3.48409482 0.91521098 -0.63831122 0.92662607 1.13422719 -1.67027046], Class Predicted = 1
X8 = [-2.40106385 1.66377595 -0.44253186 -2.05188352 -1.86398789 1.61916774], Class Predicted = 0
X9 = [-1.16737884 -0.99215638 0.91195441 1.02253829 -0.99983639 0.74675026], Class Predicted = 2
X10 = [-4.56880625 1.26406101 -1.90108552 0.8233436 -4.77912952 2.29675302], Class Predicted = 0
X11 = [-1.0652361 -2.6587621 -0.23292822 1.95386 -1.3840825 -0.47932438], Class Predicted = 2
X12 = [-3.8400943 0.18093006 -0.91721434 1.15426462 1.00621761 -2.50884237], Class Predicted = 1
X13 = [-0.87255901 0.72250376 -0.00752361 -1.29762805 -1.64339118 -2.33424668], Class Predicted = 1
X14 = [0.30825772 1.36196334 -2.75847916 -1.94837461 -2.67971007 0.02843786], Class Predicted = 0
X15 = [1.66593365 -2.51919446 1.79353361 2.483663 -0.02617542 -1.27700333], Class Predicted = 2
X16 = [-3.52581696 -0.28635 -1.84556341 1.51204885 -1.16314059 -3.65229902], Class Predicted = 2
X17 = [-1.92886241 1.5094967 -0.7566093 -4.00218163 -0.73375135 0.33518993], Class Predicted = 0
X18 = [2.27057756 1.44862538 0.40658106 -4.46638348 -2.19158949 0.29752086], Class Predicted = 0
X19 = [-2.34394846 -1.07087597 1.04447985 0.51901859 -1.98787649 -0.7326381], Class Predicted = 2
X20 = [-1.30919318 -2.62713788 -1.20874403 2.25598404 -2.19460867 -2.63348525], Class Predicted = 2
X21 = [-0.74326022 0.07451693 -0.10211664 -1.14364671 -1.194806 -1.80174605], Class Predicted = 1
X22 = [-0.24188851 1.13347966 -1.62409649 -1.89878648 -2.69585868 -1.44272191], Class Predicted = 1
X23 = [0.53296248 1.80701741 1.13647803 -3.15987424 -0.45752844 -0.07996381], Class Predicted = 1
X24 = [-2.94394091 -2.24773676 -0.97258803 1.52342781 -1.64361457 1.70861471], Class Predicted = 2
X25 = [-1.55758991 1.42479152 0.06820859 -1.70962823 -1.97304147 0.33843858], Class Predicted = 0
X26 = [-0.95080818 -0.60132573 -0.32708337 -0.72291316 -1.58560135 -2.75580287], Class Predicted = 2
X27 = [-1.9156977 1.66359368 -0.03320532 -0.5783946 -2.08064909 0.76981136], Class Predicted = 0
X28 = [0.74790723 0.59045183 -2.75232178 -2.39888791 -3.8488413 -0.99934968], Class Predicted = 0
X29 = [-1.59665023 1.4127186 0.31864532 1.42691269 -2.81129525 -0.19825664], Class Predicted = 2
X30 = [-1.41475224 0.11970062 0.8613191 0.39095319 -1.19581807 -0.97911296], Class Predicted = 2
X31 = [0.04160387 -1.47553939 1.42796881 0.94262436 -1.47956263 -2.60274322], Class Predicted = 2
X32 = [0.86014994 0.23622229 -1.1027039 -1.34574903 -0.71704747 -0.55611299], Class Predicted = 1
X33 = [0.58929552 -0.45608254 -1.59915338 -1.21625313 -2.50043338 -0.8012446], Class Predicted = 1
X34 = [-1.44820027 2.35288021 -1.83063508 0.00719207 -0.70533433 0.02184848], Class Predicted = 1
X35 = [-0.08008524 -0.81168488 -1.86754259 1.09975803 -4.57558289 -0.56411702], Class Predicted = 1
X36 = [-2.79064678 1.16794738 -0.01658064 -0.18368171 -1.24364331 0.33817693], Class Predicted = 0
X37 = [0.23461791 -0.48023453 1.20186335 0.91913413 -0.48600493 -1.01393164], Class Predicted = 2
X38 = [-2.11221697 0.96061422 -2.6353271 0.14125926 -1.77366997 -1.77365442], Class Predicted = 1
X39 = [1.88116399 -0.13291632 -1.47787207 -0.18238163 0.53934454 0.73099709], Class Predicted = 0
X40 = [-2.13776172 0.41555614 0.218609 0.19883812 -1.62372686 -1.22979339], Class Predicted = 1

```
ss Predicted = 1
X41 = [-4.86920098  2.87173656 -3.47542979  2.53540481  0.23467387 -0.8429555 ], Cla
ss Predicted = 1
X42 = [-0.43024728  0.92073338 -2.67414312 -3.72103295  2.15375012 -0.40883926], Cla
ss Predicted = 0
X43 = [-0.72598642  1.11027625 -0.59318717 -2.20055809 -0.78027632 -1.29510193], Cla
ss Predicted = 1
X44 = [ 0.02242267 -1.09675022  1.7485904   1.31417589 -0.59027721 -1.74866363], Cla
ss Predicted = 2
X45 = [ 0.32780965  2.40929523 -0.39140494 -2.37990382  0.18438154  1.55534175], Cla
ss Predicted = 0
X46 = [-1.4985683   1.47473314  0.45235002 -0.62335891  0.81211887 -0.35092357], Cla
ss Predicted = 1
X47 = [-3.03184873  1.93915762  0.15078823 -1.29900263 -1.39208535  0.45175066], Cla
ss Predicted = 0
X48 = [-1.23896416  0.06559347  1.81088039  0.23552586 -0.76420403 -2.01254176], Cla
ss Predicted = 2
X49 = [-0.49683126 -0.65160637  0.96914399  0.7514756  -1.21716881 -2.55602789], Cla
ss Predicted = 2
X50 = [-1.19067276  1.05276311 -1.90493792 -1.22642993  0.51564521  1.94235363], Cla
ss Predicted = 0
X51 = [-0.10631523 -1.57707534  2.89659296  1.86437076  0.43449061 -1.00089651], Cla
ss Predicted = 2
X52 = [-2.4974544  -0.80161605  1.00541341  0.48173608 -1.26411848 -0.20148729], Cla
ss Predicted = 2
X53 = [-0.66948012 -1.76478292  0.8244725   1.29249965 -0.96277797 -1.538516  ], Cla
ss Predicted = 2
X54 = [-1.59164397 -0.6518805   0.59084809  0.89618008 -1.10490158 -0.09477433], Cla
ss Predicted = 2
X55 = [ 0.90301336 -0.73159932 -2.94565725 -2.01493325 -4.24610962 -1.68603678], Cla
ss Predicted = 1
X56 = [-2.13231863 -1.13754017 -2.36606899  1.42883916 -0.68595586 -1.57383524], Cla
ss Predicted = 2
X57 = [-0.88535076 -0.39918985  0.21763722  0.33316666 -2.27549431 -2.69933915], Cla
ss Predicted = 2
X58 = [ 0.98668495  1.29221392  1.77300524  1.15327786 -0.90046338  1.60150807], Cla
ss Predicted = 2
X59 = [ 0.2626349   0.64117568  2.46314328 -2.53188339  0.89104386 -0.31561807], Cla
ss Predicted = 0
```

```
In [ ]: # model score in test
NB.score(X1_test,y1_test)
```

```
Out[ ]: 0.7166666666666667
```

```
In [ ]: # Find R squared
correlation_matrix = np.corrcoef(y1_test, y1_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.3363284106331249
```

2.4.2 Metrics and scoring

```
In [ ]: accuracy_score(y1_test, y1_pred)
```

```
Out[ ]: 0.7166666666666667
```

```
In [ ]: print(f1_score(y1_test, y1_pred, average='macro'))
print(f1_score(y1_test, y1_pred, average='micro'))
```

```
print(f1_score(y1_test, y1_pred, average='weighted'))
```

```
0.7011471712913031  
0.7166666666666667  
0.7192224727914502
```

In []:

```
print(precision_score(y1_test, y1_pred, average='macro'))  
print(precision_score(y1_test, y1_pred, average='micro'))  
print(precision_score(y1_test, y1_pred, average='weighted'))
```

```
0.7035173718610251  
0.7166666666666667  
0.7296332129342964
```

In []:

```
print(recall_score(y1_test, y1_pred, average='macro'))  
print(recall_score(y1_test, y1_pred, average='micro'))  
print(recall_score(y1_test, y1_pred, average='weighted'))
```

```
0.7070393374741202  
0.7166666666666667  
0.7166666666666667
```

In []:

```
cohen_kappa_score(y1_test, y1_pred)
```

Out[]: 0.5701643489254109

In []:

```
mse = mean_squared_error(y1_test, y1_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.73
```

2.4.3 Confusion Matrix

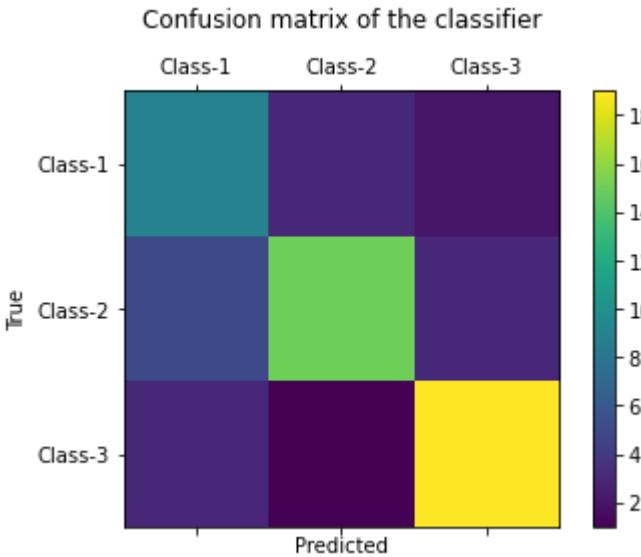
In []:

```
cm = confusion_matrix(y1_test, y1_pred)  
print(cm)
```

```
[[ 9  3  2]  
 [ 5 15  3]  
 [ 3  1 19]]
```

In []:

```
labels = ['Class-1', 'Class-2', 'Class-3']  
  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(cm)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



2.4.4 Cross-validation

```
In [ ]: X1_shuffle, y1_shuffle = shuffle(X1, y1, random_state=seed)
```

```
In [ ]: scores = cross_val_score(NB, X1_shuffle, y1_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.66 0.74 0.5 0.66 0.63]
RMSE average: 0.6381273115904018

2.4.5 K-fold

```
In [ ]: # define the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfold.split(X1):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0  1  2  3  4  6  9 10 11 13 14 16 17 18 19 21 23 24
25 28 29 30 31 32 33 35 36 37 38 39 40 41 42 43 44 47
48 49 50 51 53 54 56 57 58 60 61 62 65 67 68 69 70 71
72 75 76 77 78 79 80 82 83 84 85 86 87 88 91 93 94 95
96 97 98 99 100 101 102 104 105 107 109 110 112 113 114 115 117 118
119 120 121 123 125 126 127 128 130 131 132 133 135 137 138 140 141 142
143 146 147 148 149 151 152 154 155 157 158 159 160 161 162 163 165 166
167 169 170 171 172 174 175 177 178 179 180 181 183 185 186 187 189 191
192 193 195 196 197 198 199 200 201 202 203 204 205 207 209 210 211 212
214 215 216 217 218 220 225 226 227 231 232 233 235 237 238 240 241 242
243 244 245 246 247 249 250 251 254 255 256 257 258 259 260 261 262 263
264 265 266 267 268 269 271 272 274 275 276 277 278 279 280 281 282 283
287 288 289 291 292 294 296 297 298]
Test: [ 5  7  8 12 15 20 22 26 27 34 45 46 52 55 59 63 64 66
73 74 81 89 90 92 103 106 108 111 116 122 124 129 134 136 139 144
145 150 153 156 164 168 173 176 182 184 188 190 194 206 208 213 219 221
222 223 224 228 229 230 234 236 239 248 252 253 270 273 284 285 286 290
293 295 299]
```

```
Train: [ 0  1  2  5  6  7  8  9 10 11 12 14 15 17 19 20 22 23
```

```

25 26 27 28 31 32 34 35 36 38 39 41 42 43 45 46 47 48
49 50 51 52 53 55 57 58 59 62 63 64 65 66 68 69 70 72
73 74 78 79 80 81 82 84 85 86 87 88 89 90 91 92 93 94
95 98 99 100 102 103 104 105 106 108 111 112 113 114 115 116 117 119
120 121 122 123 124 127 128 129 130 131 132 133 134 136 138 139 140 141
142 143 144 145 147 148 149 150 151 153 155 156 162 163 164 165 168 169
170 172 173 174 176 177 178 179 180 182 183 184 185 186 187 188 190 192
193 194 195 196 197 199 200 202 203 204 206 207 208 209 210 211 213 216
217 218 219 221 222 223 224 226 228 229 230 231 232 233 234 235 236 239
240 241 242 243 244 246 247 248 251 252 253 254 256 257 258 260 261 263
265 266 267 269 270 271 273 274 275 276 277 278 283 284 285 286 287 289
290 292 293 294 295 296 297 298 299]
Test: [ 3 4 13 16 18 21 24 29 30 33 37 40 44 54 56 60 61 67
      71 75 76 77 83 96 97 101 107 109 110 118 125 126 135 137 146 152
      154 157 158 159 160 161 166 167 171 175 181 189 191 198 201 205 212 214
      215 220 225 227 237 238 245 249 250 255 259 262 264 268 272 279 280 281
      282 288 291]

```

```

Train: [ 1 3 4 5 7 8 9 11 12 13 15 16 17 18 20 21 22 24
      25 26 27 28 29 30 31 32 33 34 35 37 38 39 40 42 44 45
      46 47 52 53 54 55 56 57 59 60 61 63 64 65 66 67 70 71
      72 73 74 75 76 77 79 81 82 83 87 88 89 90 91 92 96 97
      99 101 102 103 105 106 107 108 109 110 111 115 116 117 118 119 120 121
      122 124 125 126 127 128 129 132 133 134 135 136 137 139 140 142 144 145
      146 147 150 151 152 153 154 156 157 158 159 160 161 163 164 165 166 167
      168 169 170 171 172 173 174 175 176 177 181 182 183 184 185 186 188 189
      190 191 192 193 194 195 197 198 201 202 205 206 208 211 212 213 214 215
      219 220 221 222 223 224 225 227 228 229 230 231 232 234 236 237 238 239
      242 243 244 245 248 249 250 251 252 253 255 256 257 258 259 262 263 264
      265 268 269 270 271 272 273 274 276 277 278 279 280 281 282 283 284 285
      286 287 288 289 290 291 293 295 299]
Test: [ 0 2 6 10 14 19 23 36 41 43 48 49 50 51 58 62 68 69
      78 80 84 85 86 93 94 95 98 100 104 112 113 114 123 130 131 138
      141 143 148 149 155 162 178 179 180 187 196 199 200 203 204 207 209 210
      216 217 218 226 233 235 240 241 246 247 254 260 261 266 267 275 292 294
      296 297 298]

```

```

Train: [ 0 2 3 4 5 6 7 8 10 12 13 14 15 16 18 19 20 21
      22 23 24 26 27 29 30 33 34 36 37 40 41 43 44 45 46 48
      49 50 51 52 54 55 56 58 59 60 61 62 63 64 66 67 68 69
      71 73 74 75 76 77 78 80 81 83 84 85 86 89 90 92 93 94
      95 96 97 98 100 101 103 104 106 107 108 109 110 111 112 113 114 116
      118 122 123 124 125 126 129 130 131 134 135 136 137 138 139 141 143 144
      145 146 148 149 150 152 153 154 155 156 157 158 159 160 161 162 164 166
      167 168 171 173 175 176 178 179 180 181 182 184 187 188 189 190 191 194
      196 198 199 200 201 203 204 205 206 207 208 209 210 212 213 214 215 216
      217 218 219 220 221 222 223 224 225 226 227 228 229 230 233 234 235 236
      237 238 239 240 241 245 246 247 248 249 250 252 253 254 255 259 260 261
      262 264 266 267 268 270 272 273 275 279 280 281 282 284 285 286 288 290
      291 292 293 294 295 296 297 298 299]
Test: [ 1 9 11 17 25 28 31 32 35 38 39 42 47 53 57 65 70 72
      79 82 87 88 91 99 102 105 115 117 119 120 121 127 128 132 133 140
      142 147 151 163 165 169 170 172 174 177 183 185 186 192 193 195 197 202
      211 231 232 242 243 244 251 256 257 258 263 265 269 271 274 276 277 278
      283 287 289]

```

In []:

```

# Output the accuracy
results = cross_val_score(NB, X1_train, y1_train, cv=kfold)
print('Results from all folds: ', results)

```

Results from all folds: [0.6875 0.79166667 0.75 0.75]

In []:

```

# print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))

```

Accuracy: 74.479% (3.719%)

2.4.6 Area Under the Receiver Operating Characteristic Curve (ROC AUC)

```
In [ ]: roc_auc_score(y1_train, NB.predict_proba(X1_train), multi_class='ovr')  
Out[ ]: 0.9241736381280979
```

2.5 Random Forest

```
In [ ]: # Random Forest  
RF = RandomForestClassifier(random_state=seed, n_estimators=100)  
# fit the model  
RF.fit(X1_train, y1_train)  
  
Out[ ]: RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,  
criterion='gini', max_depth=None, max_features='auto',  
max_leaf_nodes=None, max_samples=None,  
min_impurity_decrease=0.0, min_impurity_split=None,  
min_samples_leaf=1, min_samples_split=2,  
min_weight_fraction_leaf=0.0, n_estimators=100,  
n_jobs=None, oob_score=False, random_state=7, verbose=0,  
warm_start=False)  
  
In [ ]: # model score in training  
RF.score(X1_train, y1_train)  
  
Out[ ]: 1.0
```

2.5.1 Predictions

```
In [ ]: # make predictions (assign class labels)  
y1_pred = RF.predict(X1_test)  
# show the inputs and predicted outputs  
for i in range(len(X1_test)):  
    #print("X=%s, Class Predicted = %s" % (X1_test[i], y1_pred[i]))  
    print("X{0} = {1}, Class Predicted = {2}".format(i, X1_test[i], y1_pred[i]))  
  
X0 = [-0.75187726 -0.35764301 -2.42426591 -3.13029099 -3.27084163 0.14491591], Clas  
s Predicted = 0  
X1 = [-0.28563328 0.44053033 1.07117361 -2.10791563 -1.30697737 -2.38963729], Clas  
s Predicted = 1  
X2 = [-1.57344505 0.75197324 -1.77982294 -2.36700108 -1.18728904 1.86025791], Clas  
s Predicted = 0  
X3 = [-3.41369469 1.26586111 -1.18292397 0.91097121 -0.52725808 -2.56871186], Clas  
s Predicted = 1  
X4 = [-0.70195008 -1.86841318 0.60351241 1.77329308 -0.71305335 -0.66431094], Clas  
s Predicted = 2  
X5 = [-0.14915175 0.42046536 -1.60780854 -1.31461435 -2.90850248 -1.75231376], Clas  
s Predicted = 1  
X6 = [-2.01987664 -3.77896776 -2.58596184 1.9756922 -3.46134872 -1.67639727], Clas  
s Predicted = 2  
X7 = [-3.48409482 0.91521098 -0.63831122 0.92662607 1.13422719 -1.67027046], Clas  
s Predicted = 1  
X8 = [-2.40106385 1.66377595 -0.44253186 -2.05188352 -1.86398789 1.61916774], Clas  
s Predicted = 0  
X9 = [-1.16737884 -0.99215638 0.91195441 1.02253829 -0.99983639 0.74675026], Clas  
s Predicted = 2  
X10 = [-4.56880625 1.26406101 -1.90108552 0.8233436 -4.77912952 2.29675302], Cla  
ss Predicted = 0
```

```

X11 = [-1.0652361 -2.6587621 -0.23292822 1.95386 -1.3840825 -0.47932438], Cla
ss Predicted = 2
X12 = [-3.8400943 0.18093006 -0.91721434 1.15426462 1.00621761 -2.50884237], Cla
ss Predicted = 1
X13 = [-0.87255901 0.72250376 -0.00752361 -1.29762805 -1.64339118 -2.33424668], Cla
ss Predicted = 1
X14 = [ 0.30825772 1.36196334 -2.75847916 -1.94837461 -2.67971007 0.02843786], Cla
ss Predicted = 0
X15 = [ 1.66593365 -2.51919446 1.79353361 2.483663 -0.02617542 -1.27700333], Cla
ss Predicted = 2
X16 = [-3.52581696 -0.28635 -1.84556341 1.51204885 -1.16314059 -3.65229902], Cla
ss Predicted = 1
X17 = [-1.92886241 1.5094967 -0.7566093 -4.00218163 -0.73375135 0.33518993], Cla
ss Predicted = 0
X18 = [ 2.27057756 1.44862538 0.40658106 -4.46638348 -2.19158949 0.29752086], Cla
ss Predicted = 1
X19 = [-2.34394846 -1.07087597 1.04447985 0.51901859 -1.98787649 -0.7326381 ], Cla
ss Predicted = 2
X20 = [-1.30919318 -2.62713788 -1.20874403 2.25598404 -2.19460867 -2.63348525], Cla
ss Predicted = 2
X21 = [-0.74326022 0.07451693 -0.10211664 -1.14364671 -1.194806 -1.80174605], Cla
ss Predicted = 1
X22 = [-0.24188851 1.13347966 -1.62409649 -1.89878648 -2.69585868 -1.44272191], Cla
ss Predicted = 1
X23 = [ 0.53296248 1.80701741 1.13647803 -3.15987424 -0.45752844 -0.07996381], Cla
ss Predicted = 1
X24 = [-2.94394091 -2.24773676 -0.97258803 1.52342781 -1.64361457 1.70861471], Cla
ss Predicted = 2
X25 = [-1.55758991 1.42479152 0.06820859 -1.70962823 -1.97304147 0.33843858], Cla
ss Predicted = 0
X26 = [-0.95080818 -0.60132573 -0.32708337 -0.72291316 -1.58560135 -2.75580287], Cla
ss Predicted = 1
X27 = [-1.9156977 1.66359368 -0.03320532 -0.5783946 -2.08064909 0.76981136], Cla
ss Predicted = 0
X28 = [ 0.74790723 0.59045183 -2.75232178 -2.39888791 -3.8488413 -0.99934968], Cla
ss Predicted = 0
X29 = [-1.59665023 1.4127186 0.31864532 1.42691269 -2.81129525 -0.19825664], Cla
ss Predicted = 0
X30 = [-1.41475224 0.11970062 0.8613191 0.39095319 -1.19581807 -0.97911296], Cla
ss Predicted = 2
X31 = [ 0.04160387 -1.47553939 1.42796881 0.94262436 -1.47956263 -2.60274322], Cla
ss Predicted = 2
X32 = [ 0.86014994 0.23622229 -1.1027039 -1.34574903 -0.71704747 -0.55611299], Cla
ss Predicted = 0
X33 = [ 0.58929552 -0.45608254 -1.59915338 -1.21625313 -2.50043338 -0.8012446 ], Cla
ss Predicted = 1
X34 = [-1.44820027 2.35288021 -1.83063508 0.00719207 -0.70533433 0.02184848], Cla
ss Predicted = 1
X35 = [-0.08008524 -0.81168488 -1.86754259 1.09975803 -4.57558289 -0.56411702], Cla
ss Predicted = 2
X36 = [-2.79064678 1.16794738 -0.01658064 -0.18368171 -1.24364331 0.33817693], Cla
ss Predicted = 0
X37 = [ 0.23461791 -0.48023453 1.20186335 0.91913413 -0.48600493 -1.01393164], Cla
ss Predicted = 2
X38 = [-2.11221697 0.96061422 -2.6353271 0.14125926 -1.77366997 -1.77365442], Cla
ss Predicted = 1
X39 = [ 1.88116399 -0.13291632 -1.47787207 -0.18238163 0.53934454 0.73099709], Cla
ss Predicted = 0
X40 = [-2.13776172 0.41555614 0.218609 0.19883812 -1.62372686 -1.22979339], Cla
ss Predicted = 2
X41 = [-4.86920098 2.87173656 -3.47542979 2.53540481 0.23467387 -0.8429555 ], Cla
ss Predicted = 1
X42 = [-0.43024728 0.92073338 -2.67414312 -3.72103295 2.15375012 -0.40883926], Cla
ss Predicted = 0
X43 = [-0.72598642 1.11027625 -0.59318717 -2.20055809 -0.78027632 -1.29510193], Cla
ss Predicted = 1
X44 = [ 0.02242267 -1.09675022 1.7485904 1.31417589 -0.59027721 -1.74866363], Cla
ss Predicted = 2
X45 = [ 0.32780965 2.40929523 -0.39140494 -2.37990382 0.18438154 1.55534175], Cla

```

```
ss Predicted = 0
X46 = [-1.4985683  1.47473314  0.45235002 -0.62335891  0.81211887 -0.35092357], Cla
ss Predicted = 1
X47 = [-3.03184873  1.93915762  0.15078823 -1.29900263 -1.39208535  0.45175066], Cla
ss Predicted = 0
X48 = [-1.23896416  0.06559347  1.81088039  0.23552586 -0.76420403 -2.01254176], Cla
ss Predicted = 2
X49 = [-0.49683126 -0.65160637  0.96914399  0.7514756 -1.21716881 -2.55602789], Cla
ss Predicted = 2
X50 = [-1.19067276  1.05276311 -1.90493792 -1.22642993  0.51564521  1.94235363], Cla
ss Predicted = 0
X51 = [-0.10631523 -1.57707534  2.89659296  1.86437076  0.43449061 -1.00089651], Cla
ss Predicted = 2
X52 = [-2.4974544 -0.80161605  1.00541341  0.48173608 -1.26411848 -0.20148729], Cla
ss Predicted = 2
X53 = [-0.66948012 -1.76478292  0.8244725  1.29249965 -0.96277797 -1.538516 ], Cla
ss Predicted = 2
X54 = [-1.59164397 -0.6518805  0.59084809  0.89618008 -1.10490158 -0.09477433], Cla
ss Predicted = 2
X55 = [ 0.90301336 -0.73159932 -2.94565725 -2.01493325 -4.24610962 -1.68603678], Cla
ss Predicted = 1
X56 = [-2.13231863 -1.13754017 -2.36606899  1.42883916 -0.68595586 -1.57383524], Cla
ss Predicted = 2
X57 = [-0.88535076 -0.39918985  0.21763722  0.33316666 -2.27549431 -2.69933915], Cla
ss Predicted = 2
X58 = [ 0.98668495  1.29221392  1.77300524  1.15327786 -0.90046338  1.60150807], Cla
ss Predicted = 0
X59 = [ 0.2626349  0.64117568  2.46314328 -2.53188339  0.89104386 -0.31561807], Cla
ss Predicted = 1
```

```
In [ ]: RF.score(X1_test,y1_test)
```

```
Out[ ]: 0.85
```

```
In [ ]: # Find R squared
correlation_matrix = np.corrcoef(y1_test, y1_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.5300130839538008
```

2.5.2 Metrics and scoring

```
In [ ]: accuracy_score(y1_test, y1_pred)
```

```
Out[ ]: 0.85
```

```
In [ ]: print(f1_score(y1_test, y1_pred, average='macro'))
print(f1_score(y1_test, y1_pred, average='micro'))
print(f1_score(y1_test, y1_pred, average='weighted'))
```

```
0.8408699397071491
0.85
0.8545004306632216
```

```
In [ ]: print(precision_score(y1_test, y1_pred, average='macro'))
print(precision_score(y1_test, y1_pred, average='micro'))
print(precision_score(y1_test, y1_pred, average='weighted'))
```

```
0.841919191919192  
0.85  
0.8682070707070707
```

```
In [ ]:  
print(recall_score(y1_test, y1_pred, average='macro'))  
print(recall_score(y1_test, y1_pred, average='micro'))  
print(recall_score(y1_test, y1_pred, average='weighted'))
```

```
0.8509316770186336  
0.85  
0.85
```

```
In [ ]:  
cohen_kappa_score(y1_test, y1_pred)
```

```
Out[ ]: 0.7732997481108312
```

```
In [ ]:  
mse = mean_squared_error(y1_test, y1_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

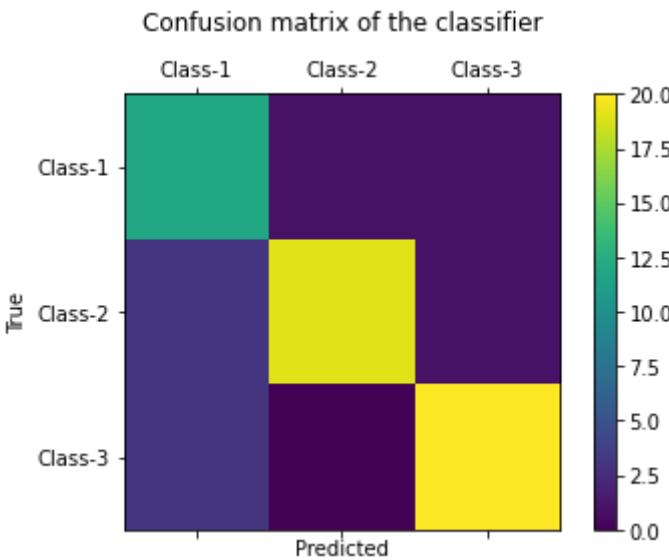
```
RMSE:  0.59
```

2.5.3 Confusion Matrix

```
In [ ]:  
cm = confusion_matrix(y1_test, y1_pred)  
print(cm)
```

```
[[12  1  1]  
 [ 3 19  1]  
 [ 3  0 20]]
```

```
In [ ]:  
labels = ['Class-1', 'Class-2', 'Class-3']  
  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(cm)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



2.5.4 Cross-validation

```
In [ ]: X1_shuffle, y1_shuffle = shuffle(X1, y1, random_state=7)
```

```
In [ ]: scores = cross_val_score(RF, X1_shuffle, y1_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.53 0.5 0.43 0.37 0.55]
RMSE average: 0.47466719917729827

2.5.5 K-fold

```
In [ ]: # define the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfold.split(X1):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0  1  2  3  4  6  9 10 11 13 14 16 17 18 19 21 23 24
25 28 29 30 31 32 33 35 36 37 38 39 40 41 42 43 44 47
48 49 50 51 53 54 56 57 58 60 61 62 65 67 68 69 70 71
72 75 76 77 78 79 80 82 83 84 85 86 87 88 91 93 94 95
96 97 98 99 100 101 102 104 105 107 109 110 112 113 114 115 117 118
119 120 121 123 125 126 127 128 130 131 132 133 135 137 138 140 141 142
143 146 147 148 149 151 152 154 155 157 158 159 160 161 162 163 165 166
167 169 170 171 172 174 175 177 178 179 180 181 183 185 186 187 189 191
192 193 195 196 197 198 199 200 201 202 203 204 205 207 209 210 211 212
214 215 216 217 218 220 225 226 227 231 232 233 235 237 238 240 241 242
243 244 245 246 247 249 250 251 254 255 256 257 258 259 260 261 262 263
264 265 266 267 268 269 271 272 274 275 276 277 278 279 280 281 282 283
287 288 289 291 292 294 296 297 298]
Test: [ 5  7  8 12 15 20 22 26 27 34 45 46 52 55 59 63 64 66
73 74 81 89 90 92 103 106 108 111 116 122 124 129 134 136 139 144
145 150 153 156 164 168 173 176 182 184 188 190 194 206 208 213 219 221
222 223 224 228 229 230 234 236 239 248 252 253 270 273 284 285 286 290
293 295 299]
```

```
Train: [ 0  1  2  5  6  7  8  9 10 11 12 14 15 17 19 20 22 23
```

```

25 26 27 28 31 32 34 35 36 38 39 41 42 43 45 46 47 48
49 50 51 52 53 55 57 58 59 62 63 64 65 66 68 69 70 72
73 74 78 79 80 81 82 84 85 86 87 88 89 90 91 92 93 94
95 98 99 100 102 103 104 105 106 108 111 112 113 114 115 116 117 119
120 121 122 123 124 127 128 129 130 131 132 133 134 136 138 139 140 141
142 143 144 145 147 148 149 150 151 153 155 156 162 163 164 165 168 169
170 172 173 174 176 177 178 179 180 182 183 184 185 186 187 188 190 192
193 194 195 196 197 199 200 202 203 204 206 207 208 209 210 211 213 216
217 218 219 221 222 223 224 226 228 229 230 231 232 233 234 235 236 239
240 241 242 243 244 246 247 248 251 252 253 254 256 257 258 260 261 263
265 266 267 269 270 271 273 274 275 276 277 278 283 284 285 286 287 289
290 292 293 294 295 296 297 298 299]
Test: [ 3 4 13 16 18 21 24 29 30 33 37 40 44 54 56 60 61 67
      71 75 76 77 83 96 97 101 107 109 110 118 125 126 135 137 146 152
      154 157 158 159 160 161 166 167 171 175 181 189 191 198 201 205 212 214
      215 220 225 227 237 238 245 249 250 255 259 262 264 268 272 279 280 281
      282 288 291]

```

```

Train: [ 1 3 4 5 7 8 9 11 12 13 15 16 17 18 20 21 22 24
      25 26 27 28 29 30 31 32 33 34 35 37 38 39 40 42 44 45
      46 47 52 53 54 55 56 57 59 60 61 63 64 65 66 67 70 71
      72 73 74 75 76 77 79 81 82 83 87 88 89 90 91 92 96 97
      99 101 102 103 105 106 107 108 109 110 111 115 116 117 118 119 120 121
      122 124 125 126 127 128 129 132 133 134 135 136 137 139 140 142 144 145
      146 147 150 151 152 153 154 156 157 158 159 160 161 163 164 165 166 167
      168 169 170 171 172 173 174 175 176 177 181 182 183 184 185 186 188 189
      190 191 192 193 194 195 197 198 201 202 205 206 208 211 212 213 214 215
      219 220 221 222 223 224 225 227 228 229 230 231 232 234 236 237 238 239
      242 243 244 245 248 249 250 251 252 253 255 256 257 258 259 262 263 264
      265 268 269 270 271 272 273 274 276 277 278 279 280 281 282 283 284 285
      286 287 288 289 290 291 293 295 299]
Test: [ 0 2 6 10 14 19 23 36 41 43 48 49 50 51 58 62 68 69
      78 80 84 85 86 93 94 95 98 100 104 112 113 114 123 130 131 138
      141 143 148 149 155 162 178 179 180 187 196 199 200 203 204 207 209 210
      216 217 218 226 233 235 240 241 246 247 254 260 261 266 267 275 292 294
      296 297 298]

```

```

Train: [ 0 2 3 4 5 6 7 8 10 12 13 14 15 16 18 19 20 21
      22 23 24 26 27 29 30 33 34 36 37 40 41 43 44 45 46 48
      49 50 51 52 54 55 56 58 59 60 61 62 63 64 66 67 68 69
      71 73 74 75 76 77 78 80 81 83 84 85 86 89 90 92 93 94
      95 96 97 98 100 101 103 104 106 107 108 109 110 111 112 113 114 116
      118 122 123 124 125 126 129 130 131 134 135 136 137 138 139 141 143 144
      145 146 148 149 150 152 153 154 155 156 157 158 159 160 161 162 164 166
      167 168 171 173 175 176 178 179 180 181 182 184 187 188 189 190 191 194
      196 198 199 200 201 203 204 205 206 207 208 209 210 212 213 214 215 216
      217 218 219 220 221 222 223 224 225 226 227 228 229 230 233 234 235 236
      237 238 239 240 241 245 246 247 248 249 250 252 253 254 255 259 260 261
      262 264 266 267 268 270 272 273 275 279 280 281 282 284 285 286 288 290
      291 292 293 294 295 296 297 298 299]
Test: [ 1 9 11 17 25 28 31 32 35 38 39 42 47 53 57 65 70 72
      79 82 87 88 91 99 102 105 115 117 119 120 121 127 128 132 133 140
      142 147 151 163 165 169 170 172 174 177 183 185 186 192 193 195 197 202
      211 231 232 242 243 244 251 256 257 258 263 265 269 271 274 276 277 278
      283 287 289]

```

In []:

```

# Output the accuracy
results = cross_val_score(RF, X1_train, y1_train, cv=kfold)
print('Results from all folds: ', results)

```

Results from all folds: [0.8125 0.85416667 0.75 0.85416667]

In []:

```

# print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))

```

Accuracy: 81.771% (4.263%)

2.5.6 Area Under the Receiver Operating Characteristic Curve (ROC AUC)

```
In [ ]: roc_auc_score(y1_train, RF.predict_proba(X1_train), multi_class='ovr')  
Out[ ]: 1.0
```

3. Iris Dataset

3.1 Data Preparation

```
In [ ]:  
#Dataset-2: IRIS  
iris = datasets.load_iris()  
  
#See keys from dictionary  
print(iris.keys())  
#Show class Labels  
print(list(iris.target_names))  
#Show feature names  
print(list(iris.feature_names))  
#Number of samples & features  
n_samples1, n_features1 = iris.data.shape  
print('Number of samples:', n_samples1)  
print('Number of features:', n_features1)  
  
dict_keys(['data', 'target', 'target_names', 'DESCR', 'feature_names', 'filename'])  
['setosa', 'versicolor', 'virginica']  
['sepal length (cm)', 'sepal width (cm)', 'petal length (cm)', 'petal width (cm)']  
Number of samples: 150  
Number of features: 4
```

```
In [ ]:  
#Define variables  
X2 = iris.data  
y2 = iris.target  
  
#Create DataFrame using iris.data  
df1 = pd.DataFrame(data=iris.data, columns=["sepal_length", "sepal_width", "petal_le  
#Append class / Label data  
df1["class"] = iris.target  
  
#Print the DataFrame  
df1.head()
```

```
Out[ ]:  
  sepal_length  sepal_width  petal_length  petal_width  class  
0          5.1         3.5         1.4         0.2      0  
1          4.9         3.0         1.4         0.2      0  
2          4.7         3.2         1.3         0.2      0  
3          4.6         3.1         1.5         0.2      0  
4          5.0         3.6         1.4         0.2      0
```

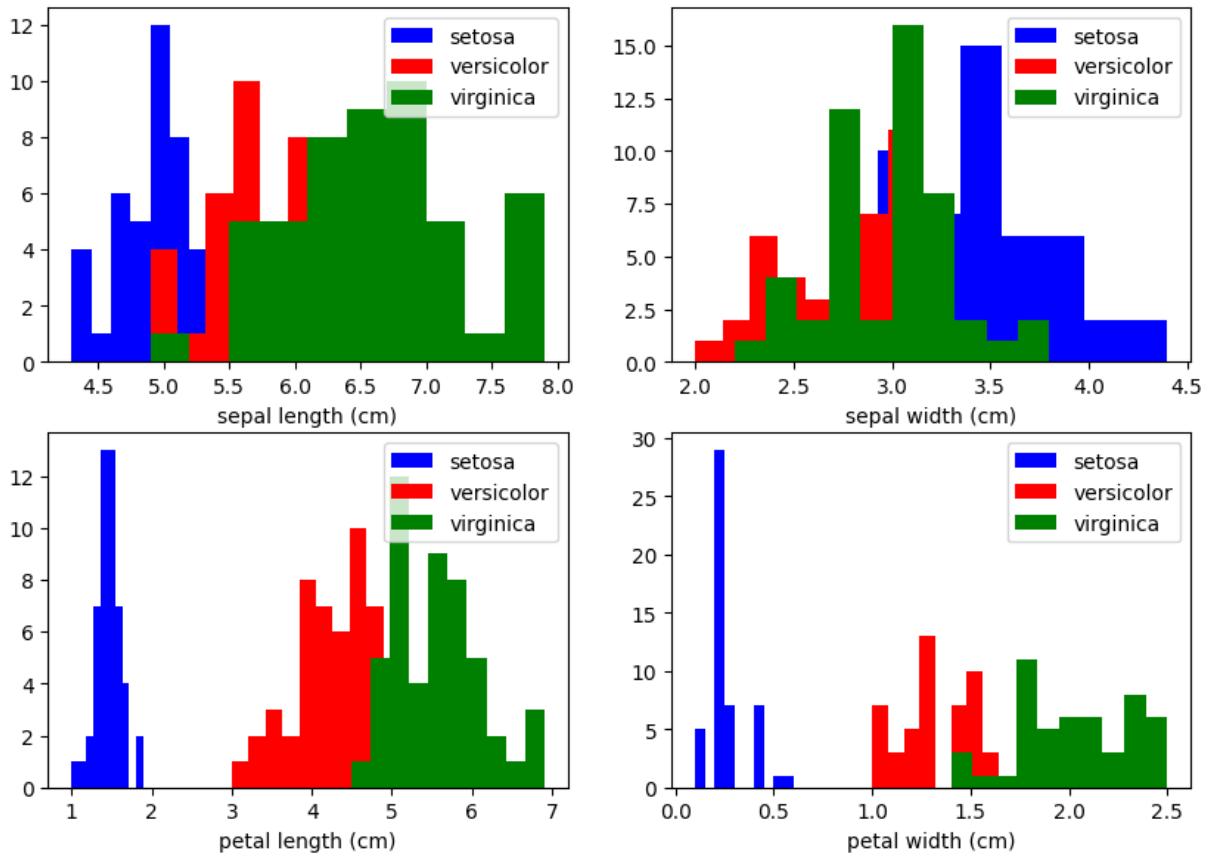
```
In [ ]:  
#Making a Histogram for each feature  
fig, axes = plt.subplots(nrows= 2, ncols=2, figsize=(10,7), dpi=100)
```

```

colors= ['blue', 'red', 'green']

for i, ax in enumerate(axes.flat):
    for label, color in zip(range(len(iris.target_names)), colors):
        ax.hist(iris.data[iris.target==label, i], label=
                iris.target_names[label], color=color)
    ax.set_xlabel(iris.feature_names[i])
    ax.legend(loc='upper right')

```



In []:

```

#Making a Dateframe for Iris
df_iris = pd.DataFrame(np.c_[iris['data'], iris['target']], columns = np.append(iris
#Describing the Data
df_iris.describe()

```

Out[]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	target
count	150.000000	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.057333	3.758000	1.199333	1.000000
std	0.828066	0.435866	1.765298	0.762238	0.819232
min	4.300000	2.000000	1.000000	0.100000	0.000000
25%	5.100000	2.800000	1.600000	0.300000	0.000000
50%	5.800000	3.000000	4.350000	1.300000	1.000000
75%	6.400000	3.300000	5.100000	1.800000	2.000000
max	7.900000	4.400000	6.900000	2.500000	2.000000

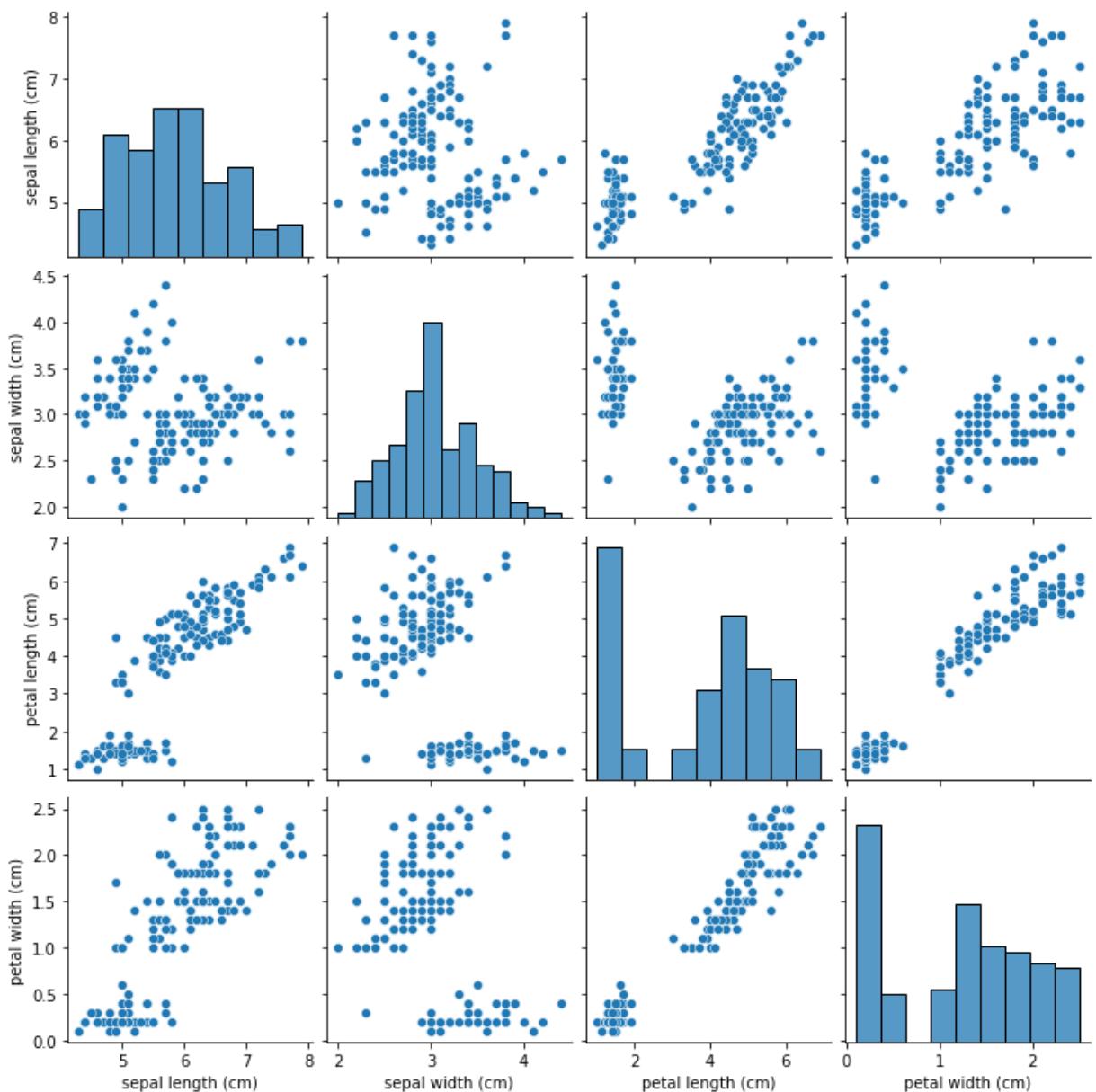
In []:

```

#Creating pairplots to show the Histograms & relationships between features
sns.pairplot(df_iris, vars = ['sepal length (cm)', 'sepal width (cm)', 'petal length

```

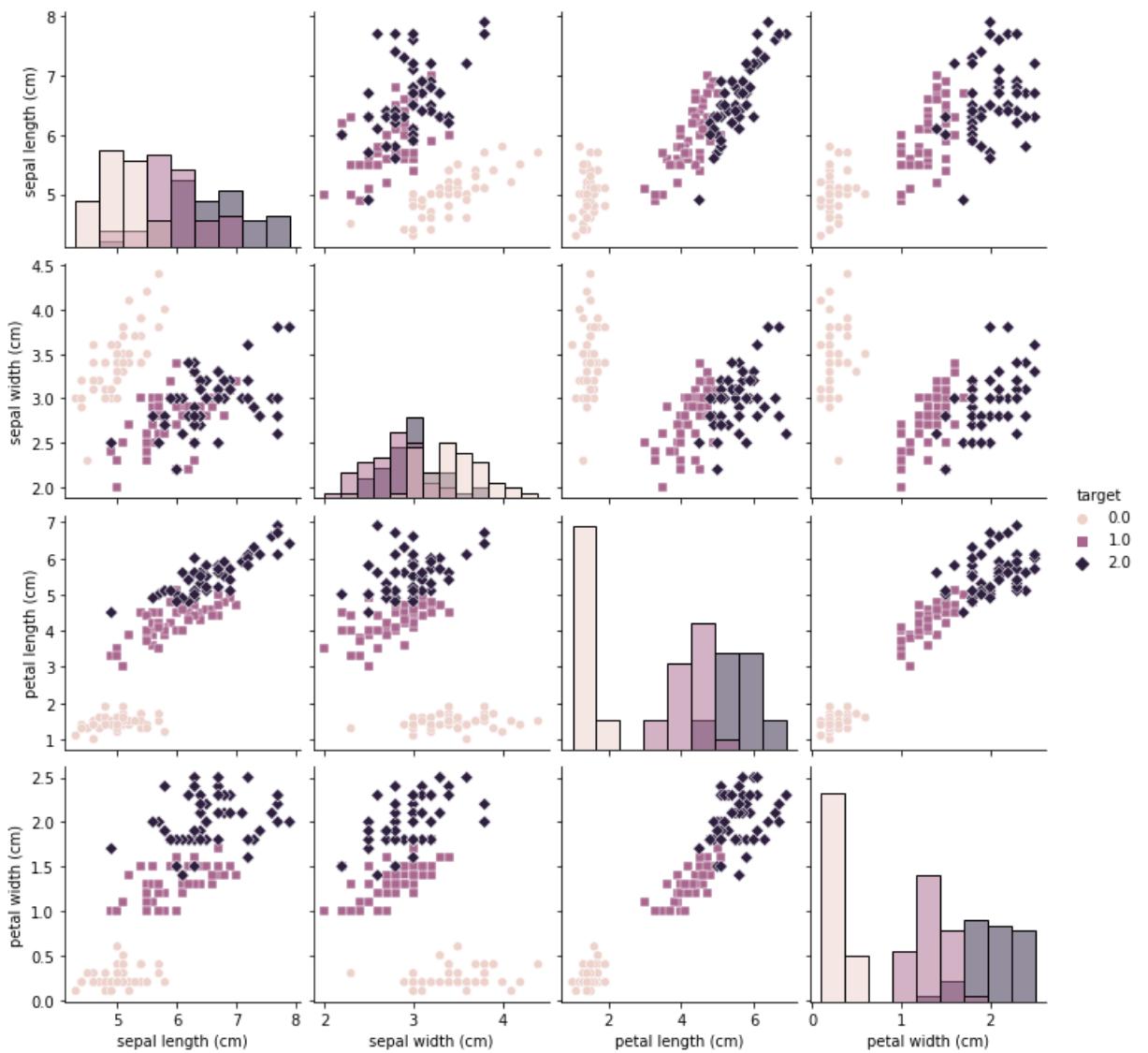
Out[]: <seaborn.axisgrid.PairGrid at 0x7faea3b8e6d0>



In []: #Adding colour to help identify classes

```
sns.pairplot(df_iris,
              hue= 'target',
              vars= ['sepal length (cm)', 'sepal width (cm)', 'petal length (cm)', 'p
diag_kind="hist",
markers=[ "o", "s", "D" ] )
```

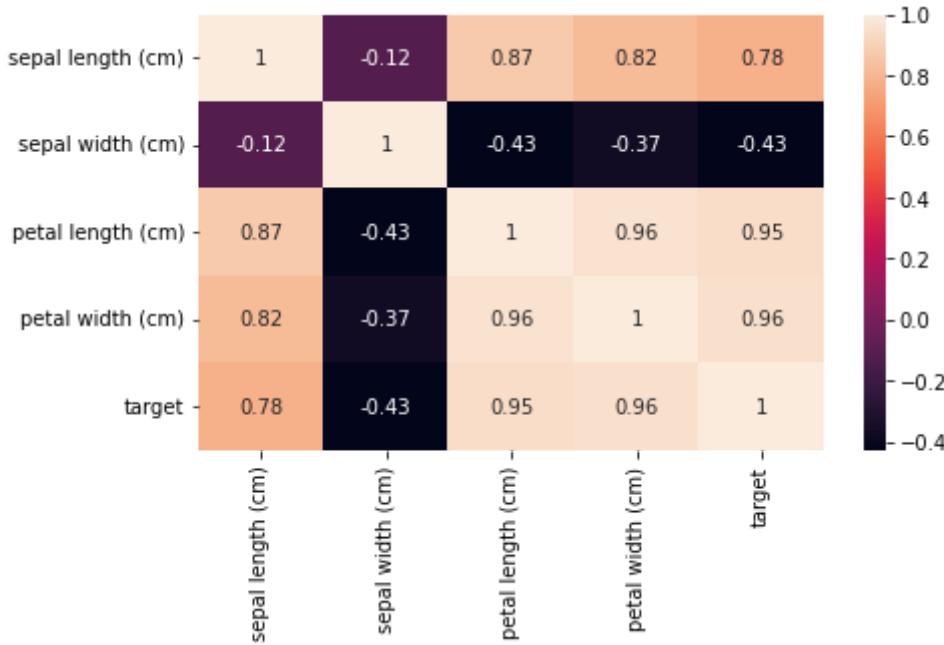
Out[]: <seaborn.axisgrid.PairGrid at 0x7faea30fc590>



In []:

```
#Correlation Matrix
corr = df_iris.corr()
fig, ax = plt.subplots(figsize=(7,4))
sns.heatmap(corr, annot=True, ax=ax)
```

Out[]: <matplotlib.axes._subplots.AxesSubplot at 0x7faea3db5950>

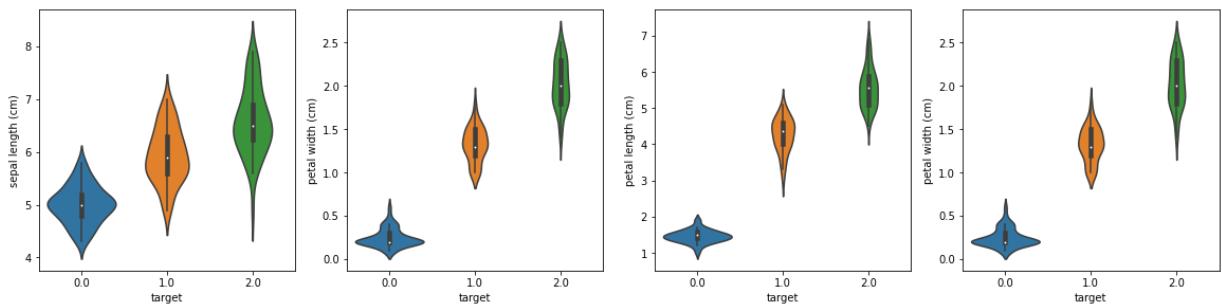


```
In [ ]: for col in df_iris.columns:  
    print(col)
```

```
sepal length (cm)  
sepal width (cm)  
petal length (cm)  
petal width (cm)  
target
```

```
In [ ]: #Creating Violin Plots  
plt.figure(figsize=(20,10))  
plt.subplot(2,4,1)  
sns.violinplot(x='target',y='sepal length (cm)', data=df_iris)  
plt.subplot(2,4,2)  
sns.violinplot(x='target',y='petal width (cm)', data=df_iris)  
plt.subplot(2,4,3)  
sns.violinplot(x='target',y='petal length (cm)', data=df_iris)  
plt.subplot(2,4,4)  
sns.violinplot(x='target',y='sepal width (cm)', data=df_iris)
```

```
Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7faea4f1c590>
```



```
In [ ]: #Split the dataset into train-test  
X2_train, X2_test, y2_train, y2_test = train_test_split(X2, y2, test_size=0.2, shuffle=True)  
  
#Split the dataset into train-validation-test  
X2_train, X2_val, y2_train, y2_val = train_test_split(X2_train, y2_train, test_size=0.2, shuffle=True)
```

3.2 Logistic Regression

```
In [ ]: #Logistic Regression model  
LogReg = LogisticRegression(max_iter=10000)  
  
#Fitting a Logistic Regression model to data  
LogReg.fit(X2_train, y2_train)  
  
#Model score  
LogReg.score(X2_train, y2_train)
```

```
Out[ ]: 0.9791666666666666
```

3.2.1 Making Predictions

```
In [ ]: #Make predictions (assign class labels)  
y2_pred = LogReg.predict(X2_test)  
  
#Show the inputs and predicted outputs
```

```

for i in range(len(X2_test)):
    print("X{0} = {1}, Class Predicted = {2}".format(i, X2_test[i], y2_pred[i]))

```

```

X0 = [5.9 3.2 4.8 1.8], Class Predicted = 2
X1 = [6.7 3. 5.2 2.3], Class Predicted = 2
X2 = [5.5 2.6 4.4 1.2], Class Predicted = 1
X3 = [7.7 2.8 6.7 2. ], Class Predicted = 2
X4 = [7.2 3.6 6.1 2.5], Class Predicted = 2
X5 = [7.4 2.8 6.1 1.9], Class Predicted = 2
X6 = [5.7 2.9 4.2 1.3], Class Predicted = 1
X7 = [5.1 3.8 1.6 0.2], Class Predicted = 0
X8 = [5. 3.3 1.4 0.2], Class Predicted = 0
X9 = [4.4 2.9 1.4 0.2], Class Predicted = 0
X10 = [5.8 2.7 3.9 1.2], Class Predicted = 1
X11 = [6.7 3.3 5.7 2.5], Class Predicted = 2
X12 = [6.2 2.9 4.3 1.3], Class Predicted = 1
X13 = [4.8 3.4 1.6 0.2], Class Predicted = 0
X14 = [6.3 3.3 4.7 1.6], Class Predicted = 1
X15 = [6.9 3.1 5.4 2.1], Class Predicted = 2
X16 = [6.7 3.1 5.6 2.4], Class Predicted = 2
X17 = [4.9 2.4 3.3 1. ], Class Predicted = 1
X18 = [5.4 3.9 1.3 0.4], Class Predicted = 0
X19 = [5. 3.6 1.4 0.2], Class Predicted = 0
X20 = [5. 2.3 3.3 1. ], Class Predicted = 1
X21 = [6.1 3. 4.9 1.8], Class Predicted = 2
X22 = [5.1 3.3 1.7 0.5], Class Predicted = 0
X23 = [6.4 2.7 5.3 1.9], Class Predicted = 2
X24 = [5.6 3. 4.5 1.5], Class Predicted = 1
X25 = [6. 2.2 4. 1. ], Class Predicted = 1
X26 = [5.1 3.8 1.9 0.4], Class Predicted = 0
X27 = [5.7 2.5 5. 2. ], Class Predicted = 2
X28 = [6.5 2.8 4.6 1.5], Class Predicted = 1
X29 = [5.6 2.5 3.9 1.1], Class Predicted = 1

```

In []:

```
#Create a new DataFrame
df_new_LR = DataFrame(dict(x=X2_test[:,0], y=X2_test[:,1], label=y2_pred))
df_new_LR.head()
```

Out[]:

	x	y	label
0	5.9	3.2	2
1	6.7	3.0	2
2	5.5	2.6	1
3	7.7	2.8	2
4	7.2	3.6	2

3.2.2 Testing Predictions

In []:

```
#Model Score in Test
LogReg.score(X2_test, y2_pred)
```

Out[]:

1.0

3.2.3 Metrics & Scoring

In []:

```
# Find R squared
correlation_matrix = np.corrcoef(y2_test, y2_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2
```

```
print(r_squared)
```

```
0.9483198978370174
```

```
In [ ]: #Accuracy Score  
accuracy_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9666666666666667
```

```
In [ ]: #ROC Score  
roc_auc_score(y2, LogReg.predict_proba(X2), multi_class='ovr')
```

```
Out[ ]: 0.9983333333333334
```

```
In [ ]: #F1 Score  
print(f1_score(y2_test, y2_pred, average='macro'))  
print(f1_score(y2_test, y2_pred, average='micro'))  
print(f1_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696342305037957
```

```
0.9666666666666667
```

```
0.9667356797791581
```

```
In [ ]: #Precision Score  
print(precision_score(y2_test, y2_pred, average='macro'))  
print(precision_score(y2_test, y2_pred, average='micro'))  
print(precision_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696969696969697
```

```
0.9666666666666667
```

```
0.9696969696969696
```

```
In [ ]: #Recall Score  
print(recall_score(y2_test, y2_pred, average='macro'))  
print(recall_score(y2_test, y2_pred, average='micro'))  
print(recall_score(y2_test, y2_pred, average='weighted'))
```

```
0.9722222222222222
```

```
0.9666666666666667
```

```
0.9666666666666667
```

```
In [ ]: #Cohen Kappa Score  
cohen_kappa_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9494949494949495
```

```
In [ ]: mse = mean_squared_error(y2_test, y2_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE: 0.18
```

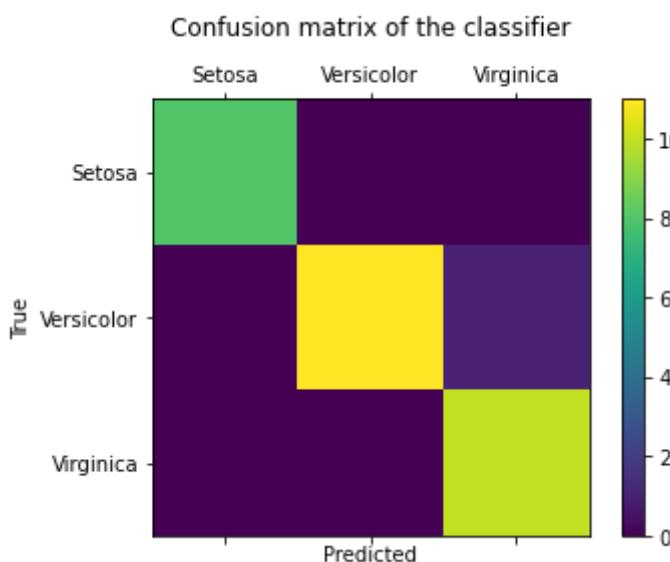
3.2.4 Confusion Matrix

```
In [ ]: ConMat = confusion_matrix(y2_test, y2_pred)  
print(ConMat)
```

```
[[ 8  0  0]
 [ 0 11  1]
 [ 0  0 10]]
```

```
In [ ]: labels = ['Setosa', 'Versicolor', 'Virginica']

fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(ConMat)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()
```



3.2.5 Cross-Validation

```
In [ ]: X2_shuffle, y2_shuffle = shuffle(X2, y2, random_state=7)
```

```
In [ ]: scores = cross_val_score(LogReg, X2_shuffle, y2_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

```
RMSE values: [ 0.37  0.    0.    0.18  0.   ]
RMSE average:  0.10954451150103321
```

3.2.6 K-Fold

```
In [ ]: #Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(X2):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [  0   1   2   3   4   5   6   9  10  11  12  13  14  15  17  19  20  21
```

```

23 25 28 29 30 31 32 34 35 36 38 39 41 42 43 46 47 48
49 50 52 53 55 56 57 58 60 61 64 65 67 68 69 70 72 74
75 77 79 80 81 82 85 87 88 89 91 92 94 95 96 98 99 101
102 103 104 105 106 108 109 110 111 112 113 115 116 117 118 119 120 122
123 124 125 128 129 130 131 133 135 136 138 139 140 141 142 143 144 145
146 147 148 149]
Test: [ 7 8 16 18 22 24 26 27 33 37 40 44 45 51 54 59 62 63
66 71 73 76 78 83 84 86 90 93 97 100 107 114 121 126 127 132
134 137]

Train: [ 0 1 4 5 6 7 8 9 11 12 14 16 17 18 19 21 22 23
24 25 26 27 28 29 31 32 33 34 35 36 37 38 39 40 41 42
44 45 46 47 49 51 53 54 55 57 58 59 62 63 65 66 67 68
70 71 72 73 74 75 76 77 78 79 81 82 83 84 86 87 88 90
93 96 97 98 99 100 102 103 104 105 107 109 110 113 114 115 117 118
120 121 122 124 126 127 128 129 130 131 132 134 136 137 138 139 140 142
143 145 148 149]
Test: [ 2 3 10 13 15 20 30 43 48 50 52 56 60 61 64 69 80 85
89 91 92 94 95 101 106 108 111 112 116 119 123 125 133 135 141 144
146 147]

Train: [ 2 3 7 8 9 10 13 14 15 16 18 19 20 21 22 24 25 26
27 29 30 31 32 33 36 37 39 40 43 44 45 47 48 49 50 51
52 54 56 57 58 59 60 61 62 63 64 65 66 67 69 70 71 72
73 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
93 94 95 97 99 100 101 103 106 107 108 111 112 114 115 116 117 118
119 121 122 123 125 126 127 130 131 132 133 134 135 136 137 138 140 141
142 144 145 146 147]
Test: [ 0 1 4 5 6 11 12 17 23 28 34 35 38 41 42 46 53 55
68 74 75 96 98 102 104 105 109 110 113 120 124 128 129 139 143 148
149]

Train: [ 0 1 2 3 4 5 6 7 8 10 11 12 13 15 16 17 18 20
22 23 24 26 27 28 30 33 34 35 37 38 40 41 42 43 44 45
46 48 50 51 52 53 54 55 56 59 60 61 62 63 64 66 68 69
71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 114 116
119 120 121 123 124 125 126 127 128 129 132 133 134 135 137 139 141 143
144 146 147 148 149]
Test: [ 9 14 19 21 25 29 31 32 36 39 47 49 57 58 65 67 70 72
77 79 81 82 87 88 99 103 115 117 118 122 130 131 136 138 140 142
145]

```

In []:

```
#Output the accuracy
results = cross_val_score(LogReg, X2, y2, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.97368421 0.89473684 1. 0.94594595]

In []:

```
#Printing the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 95.359% (3.899%)

3.3 Support Vector Machines

In []:

```
#Support Vector Machine
svm_model = SVC(C=0.5, kernel='linear', probability=True)
#Fit the model
svm_model.fit(X2_train, y2_train)
```

Out[]:

```
SVC(C=0.5, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
decision_function_shape='ovr', degree=3, gamma='scale', kernel='linear',
```

```
max_iter=-1, probability=True, random_state=None, shrinking=True, tol=0.001,  
verbose=False)
```

```
In [ ]: #Model score in training returns the coefficient of determination R^2 where 1=100%  
svm_model.score(X2_train, y2_train)
```

```
Out[ ]: 0.9895833333333334
```

3.3.1 Making Predictions

```
In [ ]: #Make predictions (assign class labels)  
y2_pred = svm_model.predict(X2_test)  
  
#Show inputs and predicted outputs  
for i in range(len(X2_test)):  
    #print("X=%s, Class Predicted = %s" % (X_test[i], y_pred[i]))  
    print("X{0} = {1}, Class Predicted = {2}".format(i, X2_test[i], y2_pred[i]))
```

```
X0 = [5.9 3.2 4.8 1.8], Class Predicted = 1  
X1 = [6.7 3. 5.2 2.3], Class Predicted = 2  
X2 = [5.5 2.6 4.4 1.2], Class Predicted = 1  
X3 = [7.7 2.8 6.7 2. ], Class Predicted = 2  
X4 = [7.2 3.6 6.1 2.5], Class Predicted = 2  
X5 = [7.4 2.8 6.1 1.9], Class Predicted = 2  
X6 = [5.7 2.9 4.2 1.3], Class Predicted = 1  
X7 = [5.1 3.8 1.6 0.2], Class Predicted = 0  
X8 = [5. 3.3 1.4 0.2], Class Predicted = 0  
X9 = [4.4 2.9 1.4 0.2], Class Predicted = 0  
X10 = [5.8 2.7 3.9 1.2], Class Predicted = 1  
X11 = [6.7 3.3 5.7 2.5], Class Predicted = 2  
X12 = [6.2 2.9 4.3 1.3], Class Predicted = 1  
X13 = [4.8 3.4 1.6 0.2], Class Predicted = 0  
X14 = [6.3 3.3 4.7 1.6], Class Predicted = 1  
X15 = [6.9 3.1 5.4 2.1], Class Predicted = 2  
X16 = [6.7 3.1 5.6 2.4], Class Predicted = 2  
X17 = [4.9 2.4 3.3 1. ], Class Predicted = 1  
X18 = [5.4 3.9 1.3 0.4], Class Predicted = 0  
X19 = [5. 3.6 1.4 0.2], Class Predicted = 0  
X20 = [5. 2.3 3.3 1. ], Class Predicted = 1  
X21 = [6.1 3. 4.9 1.8], Class Predicted = 2  
X22 = [5.1 3.3 1.7 0.5], Class Predicted = 0  
X23 = [6.4 2.7 5.3 1.9], Class Predicted = 2  
X24 = [5.6 3. 4.5 1.5], Class Predicted = 1  
X25 = [6. 2.2 4. 1. ], Class Predicted = 1  
X26 = [5.1 3.8 1.9 0.4], Class Predicted = 0  
X27 = [5.7 2.5 5. 2. ], Class Predicted = 2  
X28 = [6.5 2.8 4.6 1.5], Class Predicted = 1  
X29 = [5.6 2.5 3.9 1.1], Class Predicted = 1
```

```
In [ ]: #Create a new DataFrame  
df_new_SVM = DataFrame(dict(x=X2_test[:,0], y=X2_test[:,1], label=y2_pred))  
df_new_SVM.head()
```

```
Out[ ]:   x   y  label  
0  5.9  3.2      1  
1  6.7  3.0      2  
2  5.5  2.6      1  
3  7.7  2.8      2  
4  7.2  3.6      2
```

3.3.2 Testing Predictions

```
In [ ]: #Model score in test  
svm_model.score(X2_test, y2_pred)
```

```
Out[ ]: 1.0
```

3.3.3 Metrics & Scoring

```
In [ ]: # Find R squared  
correlation_matrix = np.corrcoef(y2_test, y2_pred)  
correlation_xy = correlation_matrix[0,1]  
r_squared = correlation_xy**2  
  
print(r_squared)
```

```
1.0
```

```
In [ ]: #Accuracy Score  
accuracy_score(y2_test, y2_pred)
```

```
Out[ ]: 1.0
```

```
In [ ]: #ROC Score  
roc_auc_score(y2, svm_model.predict_proba(X2), multi_class='ovr')
```

```
Out[ ]: 0.9990666666666667
```

```
In [ ]: #F1 Score  
print(f1_score(y2_test, y2_pred, average='macro'))  
print(f1_score(y2_test, y2_pred, average='micro'))  
print(f1_score(y2_test, y2_pred, average='weighted'))
```

```
1.0  
1.0  
1.0
```

```
In [ ]: #Precision Score  
print(precision_score(y2_test, y2_pred, average='macro'))  
print(precision_score(y2_test, y2_pred, average='micro'))  
print(precision_score(y2_test, y2_pred, average='weighted'))
```

```
1.0  
1.0  
1.0
```

```
In [ ]: #Recall Score  
print(recall_score(y2_test, y2_pred, average='macro'))  
print(recall_score(y2_test, y2_pred, average='micro'))  
print(recall_score(y2_test, y2_pred, average='weighted'))
```

```
1.0  
1.0  
1.0
```

```
In [ ]:
```

```
#Cohen Kappa Score  
cohen_kappa_score(y2_test, y2_pred)
```

Out[]: 1.0

```
In [ ]:  
mse = mean_squared_error(y2_test, y2_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

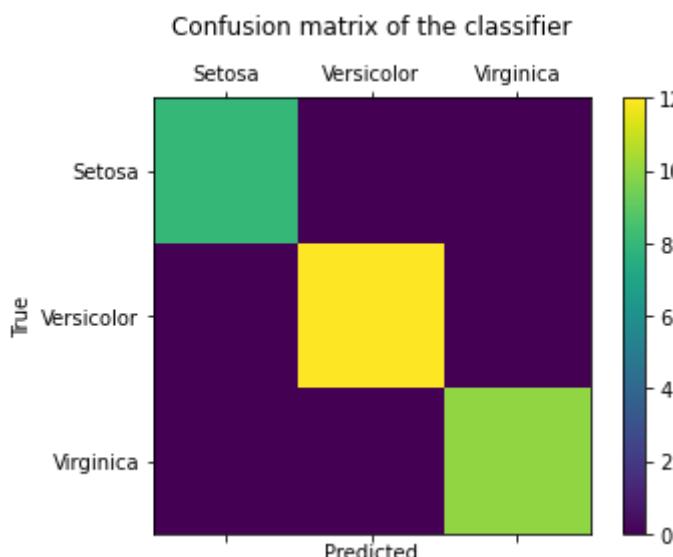
RMSE: 0.0

3.3.4 Confusion Matrix

```
In [ ]:  
ConMat = confusion_matrix(y2_test, y2_pred)  
print(ConMat)
```

```
[[ 8  0  0]  
 [ 0 12  0]  
 [ 0  0 10]]
```

```
In [ ]:  
labels = ['Setosa', 'Versicolor', 'Virginica']  
  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(ConMat)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



3.3.5 Cross-Validation

```
In [ ]:  
X2_shuffle, y2_shuffle = shuffle(X2, y2, random_state=7)
```

```
In [ ]:  
scores = cross_val_score(svm_model, X2_shuffle, y2_shuffle,  
                        scoring="neg_mean_squared_error",  
                        cv=5, n_jobs=1)
```

```

rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))

```

RMSE values: [0.26 0. 0. 0.18 0.]
RMSE average: 0.08815461511644329

3.3.6 K-Fold

In []:

```

#Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(X2):
    print("Train: %s \nTest: %s\n" % (train, test))

```

```

Train: [ 0 1 2 3 4 5 6 9 10 11 12 13 14 15 17 19 20 21
23 25 28 29 30 31 32 34 35 36 38 39 41 42 43 46 47 48
49 50 52 53 55 56 57 58 60 61 64 65 67 68 69 70 72 74
75 77 79 80 81 82 85 87 88 89 91 92 94 95 96 98 99 101
102 103 104 105 106 108 109 110 111 112 113 115 116 117 118 119 120 122
123 124 125 128 129 130 131 133 135 136 138 139 140 141 142 143 144 145
146 147 148 149]
Test: [ 7 8 16 18 22 24 26 27 33 37 40 44 45 51 54 59 62 63
66 71 73 76 78 83 84 86 90 93 97 100 107 114 121 126 127 132
134 137]

Train: [ 0 1 4 5 6 7 8 9 11 12 14 16 17 18 19 21 22 23
24 25 26 27 28 29 31 32 33 34 35 36 37 38 39 40 41 42
44 45 46 47 49 51 53 54 55 57 58 59 62 63 65 66 67 68
70 71 72 73 74 75 76 77 78 79 81 82 83 84 86 87 88 90
93 96 97 98 99 100 102 103 104 105 107 109 110 113 114 115 117 118
120 121 122 124 126 127 128 129 130 131 132 134 136 137 138 139 140 142
143 145 148 149]
Test: [ 2 3 10 13 15 20 30 43 48 50 52 56 60 61 64 69 80 85
89 91 92 94 95 101 106 108 111 112 116 119 123 125 133 135 141 144
146 147]

Train: [ 2 3 7 8 9 10 13 14 15 16 18 19 20 21 22 24 25 26
27 29 30 31 32 33 36 37 39 40 43 44 45 47 48 49 50 51
52 54 56 57 58 59 60 61 62 63 64 65 66 67 69 70 71 72
73 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
93 94 95 97 99 100 101 103 106 107 108 111 112 114 115 116 117 118
119 121 122 123 125 126 127 130 131 132 133 134 135 136 137 138 140 141
142 144 145 146 147]
Test: [ 0 1 4 5 6 11 12 17 23 28 34 35 38 41 42 46 53 55
68 74 75 96 98 102 104 105 109 110 113 120 124 128 129 139 143 148
149]

Train: [ 0 1 2 3 4 5 6 7 8 10 11 12 13 15 16 17 18 20
22 23 24 26 27 28 30 33 34 35 37 38 40 41 42 43 44 45
46 48 50 51 52 53 54 55 56 59 60 61 62 63 64 66 68 69
71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 114 116
119 120 121 123 124 125 126 127 128 129 132 133 134 135 137 139 141 143
144 146 147 148 149]
Test: [ 9 14 19 21 25 29 31 32 36 39 47 49 57 58 65 67 70 72
77 79 81 82 87 88 99 103 115 117 118 122 130 131 136 138 140 142
145]

```

In []:

```

#Output the accuracy
results = cross_val_score(svm_model, X2, y2, cv=kfold)
print('Results from all folds: ', results)

```

Results from all folds: [0.97368421 0.92105263 1. 0.97297297]

```
In [ ]: #Printing the mean and std across all folds  
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))  
  
Accuracy: 96.693% (2.864%)
```

3.4 Gaussian Naive Bayes

```
In [ ]: #Gaussian Naive Bayes (GaussianNB)  
GNB = GaussianNB()  
  
#Fit the model  
GNB.fit(X2_train, y2_train)  
  
Out[ ]: GaussianNB(priors=None, var_smoothing=1e-09)
```

```
In [ ]: #Model score in training  
GNB.score(X2_train, y2_train)  
  
Out[ ]: 0.9583333333333334
```

3.4.1 Making Predictions

```
In [ ]: #Make Predictions (assign class labels)  
y2_pred = GNB.predict(X2_test)  
  
#Show inputs and predicted outputs  
for i in range(len(X2_test)):  
    print("X=%s, Class Predicted = %s" % (X2_test[i], y2_pred[i]))  
    print("X{0} = {1}, Class Predicted = {2}".format(i, X2_test[i], y2_pred[i]))
```

```
X0 = [5.9 3.2 4.8 1.8], Class Predicted = 2  
X1 = [6.7 3. 5.2 2.3], Class Predicted = 2  
X2 = [5.5 2.6 4.4 1.2], Class Predicted = 1  
X3 = [7.7 2.8 6.7 2. ], Class Predicted = 2  
X4 = [7.2 3.6 6.1 2.5], Class Predicted = 2  
X5 = [7.4 2.8 6.1 1.9], Class Predicted = 2  
X6 = [5.7 2.9 4.2 1.3], Class Predicted = 1  
X7 = [5.1 3.8 1.6 0.2], Class Predicted = 0  
X8 = [5. 3.3 1.4 0.2], Class Predicted = 0  
X9 = [4.4 2.9 1.4 0.2], Class Predicted = 0  
X10 = [5.8 2.7 3.9 1.2], Class Predicted = 1  
X11 = [6.7 3.3 5.7 2.5], Class Predicted = 2  
X12 = [6.2 2.9 4.3 1.3], Class Predicted = 1  
X13 = [4.8 3.4 1.6 0.2], Class Predicted = 0  
X14 = [6.3 3.3 4.7 1.6], Class Predicted = 1  
X15 = [6.9 3.1 5.4 2.1], Class Predicted = 2  
X16 = [6.7 3.1 5.6 2.4], Class Predicted = 2  
X17 = [4.9 2.4 3.3 1. ], Class Predicted = 1  
X18 = [5.4 3.9 1.3 0.4], Class Predicted = 0  
X19 = [5. 3.6 1.4 0.2], Class Predicted = 0  
X20 = [5. 2.3 3.3 1. ], Class Predicted = 1  
X21 = [6.1 3. 4.9 1.8], Class Predicted = 2  
X22 = [5.1 3.3 1.7 0.5], Class Predicted = 0  
X23 = [6.4 2.7 5.3 1.9], Class Predicted = 2  
X24 = [5.6 3. 4.5 1.5], Class Predicted = 1  
X25 = [6. 2.2 4. 1. ], Class Predicted = 1  
X26 = [5.1 3.8 1.9 0.4], Class Predicted = 0  
X27 = [5.7 2.5 5. 2. ], Class Predicted = 2  
X28 = [6.5 2.8 4.6 1.5], Class Predicted = 1  
X29 = [5.6 2.5 3.9 1.1], Class Predicted = 1
```

```
In [ ]: #Create a DataFrame  
df_new_GNB = DataFrame(dict(x=X2_test[:,0], y=X2_test[:,1], label=y2_pred))  
df_new_GNB.head()
```

```
Out[ ]:   x    y  label  
0  5.9  3.2      2  
1  6.7  3.0      2  
2  5.5  2.6      1  
3  7.7  2.8      2  
4  7.2  3.6      2
```

3.4.2 Testing Predictions

```
In [ ]: #Model score in test  
GNB.score(X2_test, y2_pred)
```

```
Out[ ]: 1.0
```

3.4.3 Metrics & Scoring

```
In [ ]: # Find R squared  
correlation_matrix = np.corrcoef(y2_test, y2_pred)  
correlation_xy = correlation_matrix[0,1]  
r_squared = correlation_xy**2  
  
print(r_squared)  
  
0.9483198978370174
```

```
In [ ]: #Accuracy Score  
accuracy_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9666666666666667
```

```
In [ ]: #ROC Score  
roc_auc_score(y2, GNB.predict_proba(X2), multi_class='ovr')
```

```
Out[ ]: 0.9953333333333333
```

```
In [ ]: #F1 Score  
print(f1_score(y2_test, y2_pred, average='macro'))  
print(f1_score(y2_test, y2_pred, average='micro'))  
print(f1_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696342305037957  
0.9666666666666667  
0.9667356797791581
```

```
In [ ]: #Precision Score  
print(precision_score(y2_test, y2_pred, average='macro'))
```

```
print(precision_score(y2_test, y2_pred, average='micro'))
print(precision_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696969696969697
0.9666666666666667
0.9696969696969696
```

```
In [ ]: #Recall Score
print(recall_score(y2_test, y2_pred, average='macro'))
print(recall_score(y2_test, y2_pred, average='micro'))
print(recall_score(y2_test, y2_pred, average='weighted'))
```

```
0.9722222222222222
0.9666666666666667
0.9666666666666667
```

```
In [ ]: #Cohen Kappa Score
cohen_kappa_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9494949494949495
```

```
In [ ]: mse = mean_squared_error(y2_test, y2_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.18
```

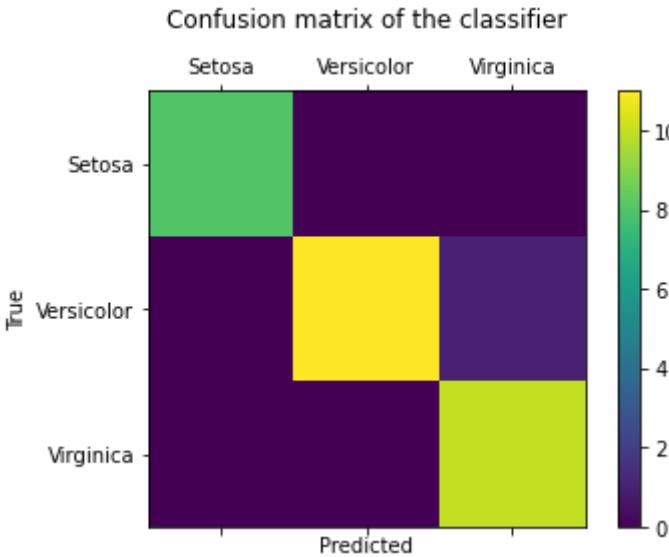
3.4.4 Confusion Matrix

```
In [ ]: ConMat = confusion_matrix(y2_test, y2_pred)
print(ConMat)
```

```
[[ 8  0  0]
 [ 0 11  1]
 [ 0  0 10]]
```

```
In [ ]: labels = ['Setosa', 'Versicolor', 'Virginica']

fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(ConMat)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()
```



3.4.5 Cross-Validation

```
In [ ]: X2_shuffle, y2_shuffle = shuffle(X2, y2, random_state=7)
```

```
In [ ]: scores = cross_val_score(GNB, X2_shuffle, y2_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.41 0. 0. 0. 0.18]
RMSE average: 0.11816449525978368

3.4.6 K-Fold

```
In [ ]:
#Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(X2):
    print("Train: %s \nTest: %s\n" % (train, test))
```

Train: [0 1 2 3 4 5 6 9 10 11 12 13 14 15 17 19 20 21
23 25 28 29 30 31 32 34 35 36 38 39 41 42 43 46 47 48
49 50 52 53 55 56 57 58 60 61 64 65 67 68 69 70 72 74
75 77 79 80 81 82 85 87 88 89 91 92 94 95 96 98 99 101
102 103 104 105 106 108 109 110 111 112 113 115 116 117 118 119 120 122
123 124 125 128 129 130 131 133 135 136 138 139 140 141 142 143 144 145
146 147 148 149]
Test: [7 8 16 18 22 24 26 27 33 37 40 44 45 51 54 59 62 63
66 71 73 76 78 83 84 86 90 93 97 100 107 114 121 126 127 132
134 137]

Train: [0 1 4 5 6 7 8 9 11 12 14 16 17 18 19 21 22 23
24 25 26 27 28 29 31 32 33 34 35 36 37 38 39 40 41 42
44 45 46 47 49 51 53 54 55 57 58 59 62 63 65 66 67 68
70 71 72 73 74 75 76 77 78 79 81 82 83 84 86 87 88 90
93 96 97 98 99 100 102 103 104 105 107 109 110 113 114 115 117 118
120 121 122 124 126 127 128 129 130 131 132 134 136 137 138 139 140 142
143 145 148 149]
Test: [2 3 10 13 15 20 30 43 48 50 52 56 60 61 64 69 80 85
89 91 92 94 95 101 106 108 111 112 116 119 123 125 133 135 141 144

```
146 147]
```

```
Train: [ 2  3  7  8  9 10 13 14 15 16 18 19 20 21 22 24 25 26
         27 29 30 31 32 33 36 37 39 40 43 44 45 47 48 49 50 51
         52 54 56 57 58 59 60 61 62 63 64 65 66 67 69 70 71 72
         73 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
         93 94 95 97 99 100 101 103 106 107 108 111 112 114 115 116 117 118
        119 121 122 123 125 126 127 130 131 132 133 134 135 136 137 138 140 141
        142 144 145 146 147]
Test: [ 0  1  4  5  6 11 12 17 23 28 34 35 38 41 42 46 53 55
       68 74 75 96 98 102 104 105 109 110 113 120 124 128 129 139 143 148
      149]

Train: [ 0  1  2  3  4  5  6  7  8 10 11 12 13 15 16 17 18 20
         22 23 24 26 27 28 30 33 34 35 37 38 40 41 42 43 44 45
         46 48 50 51 52 53 54 55 56 59 60 61 62 63 64 66 68 69
         71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
         96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 114 116
        119 120 121 123 124 125 126 127 128 129 132 133 134 135 137 139 141 143
        144 146 147 148 149]
Test: [ 9 14 19 21 25 29 31 32 36 39 47 49 57 58 65 67 70 72
       77 79 81 82 87 88 99 103 115 117 118 122 130 131 136 138 140 142
      145]
```

```
In [ ]:
```

```
#Output the accuracy
results = cross_val_score(GNB, X2, y2, cv=kfold)
print('Results from all folds: ', results)
```

```
Results from all folds: [1.          0.92105263 1.          0.94594595]
```

```
In [ ]:
```

```
#Printing the mean and std across all folds
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

```
Accuracy: 96.675% (3.440%)
```

3.5 Random Forests

```
In [ ]:
```

```
#Random Forest
RFC = RandomForestClassifier(random_state=1, n_estimators=100)

#Fitting the Random Forest Model to Data
RFC.fit(X2_train, y2_train)
```

```
Out[ ]:
```

```
RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                      criterion='gini', max_depth=None, max_features='auto',
                      max_leaf_nodes=None, max_samples=None,
                      min_impurity_decrease=0.0, min_impurity_split=None,
                      min_samples_leaf=1, min_samples_split=2,
                      min_weight_fraction_leaf=0.0, n_estimators=100,
                      n_jobs=None, oob_score=False, random_state=1, verbose=0,
                      warm_start=False)
```

```
In [ ]:
```

```
#Model score in training
RFC.score(X2_train, y2_train)
```

```
Out[ ]: 1.0
```

3.5.1 Making Predictions

```
In [ ]:
```

```
#Making predictions (assign class labels)
```

```

y2_pred = RFC.predict(X2_test)

#Showing the inputs and predicted outputs
for i in range(len(X2_test)):
    #print("X=%s, Class Predicted = %s" % (X_test[i], y_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, X2_test[i], y2_pred[i]))


X0 = [5.9 3.2 4.8 1.8], Class Predicted = 2
X1 = [6.7 3. 5.2 2.3], Class Predicted = 2
X2 = [5.5 2.6 4.4 1.2], Class Predicted = 1
X3 = [7.7 2.8 6.7 2. ], Class Predicted = 2
X4 = [7.2 3.6 6.1 2.5], Class Predicted = 2
X5 = [7.4 2.8 6.1 1.9], Class Predicted = 2
X6 = [5.7 2.9 4.2 1.3], Class Predicted = 1
X7 = [5.1 3.8 1.6 0.2], Class Predicted = 0
X8 = [5. 3.3 1.4 0.2], Class Predicted = 0
X9 = [4.4 2.9 1.4 0.2], Class Predicted = 0
X10 = [5.8 2.7 3.9 1.2], Class Predicted = 1
X11 = [6.7 3.3 5.7 2.5], Class Predicted = 2
X12 = [6.2 2.9 4.3 1.3], Class Predicted = 1
X13 = [4.8 3.4 1.6 0.2], Class Predicted = 0
X14 = [6.3 3.3 4.7 1.6], Class Predicted = 1
X15 = [6.9 3.1 5.4 2.1], Class Predicted = 2
X16 = [6.7 3.1 5.6 2.4], Class Predicted = 2
X17 = [4.9 2.4 3.3 1. ], Class Predicted = 1
X18 = [5.4 3.9 1.3 0.4], Class Predicted = 0
X19 = [5. 3.6 1.4 0.2], Class Predicted = 0
X20 = [5. 2.3 3.3 1. ], Class Predicted = 1
X21 = [6.1 3. 4.9 1.8], Class Predicted = 2
X22 = [5.1 3.3 1.7 0.5], Class Predicted = 0
X23 = [6.4 2.7 5.3 1.9], Class Predicted = 2
X24 = [5.6 3. 4.5 1.5], Class Predicted = 1
X25 = [6. 2.2 4. 1. ], Class Predicted = 1
X26 = [5.1 3.8 1.9 0.4], Class Predicted = 0
X27 = [5.7 2.5 5. 2. ], Class Predicted = 2
X28 = [6.5 2.8 4.6 1.5], Class Predicted = 1
X29 = [5.6 2.5 3.9 1.1], Class Predicted = 1

```

In []:

```

#Creating a new DataFrame
df_new_RFC = DataFrame(dict(x=X2_test[:,0], y=X2_test[:,1], label=y2_pred))
df_new_RFC.head()

```

Out[]:

	x	y	label
0	5.9	3.2	2
1	6.7	3.0	2
2	5.5	2.6	1
3	7.7	2.8	2
4	7.2	3.6	2

3.5.2 Testing Predictions

In []:

```

#Model Score in Test
RFC.score(X2_test, y2_pred)

```

Out[]: 1.0

3.5.3 Metrics & Scoring

```
In [ ]: # Find R squared
correlation_matrix = np.corrcoef(y2_test, y2_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.9483198978370174
```

```
In [ ]: #Accuracy Score
accuracy_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9666666666666667
```

```
In [ ]: #ROC Score
roc_auc_score(y2, RFC.predict_proba(X2), multi_class='ovr')
```

```
Out[ ]: 0.9996666666666667
```

```
In [ ]: #F1 Score
print(f1_score(y2_test, y2_pred, average='macro'))
print(f1_score(y2_test, y2_pred, average='micro'))
print(f1_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696342305037957
```

```
0.9666666666666667
```

```
0.9667356797791581
```

```
In [ ]: #Precision Score
print(precision_score(y2_test, y2_pred, average='macro'))
print(precision_score(y2_test, y2_pred, average='micro'))
print(precision_score(y2_test, y2_pred, average='weighted'))
```

```
0.9696969696969697
```

```
0.9666666666666667
```

```
0.9696969696969696
```

```
In [ ]: #Recall Score
print(recall_score(y2_test, y2_pred, average='macro'))
print(recall_score(y2_test, y2_pred, average='micro'))
print(recall_score(y2_test, y2_pred, average='weighted'))
```

```
0.9722222222222222
```

```
0.9666666666666667
```

```
0.9666666666666667
```

```
In [ ]: #Cohen Kappa Score
cohen_kappa_score(y2_test, y2_pred)
```

```
Out[ ]: 0.9494949494949495
```

```
In [ ]: mse = mean_squared_error(y2_test, y2_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE: 0.18
```

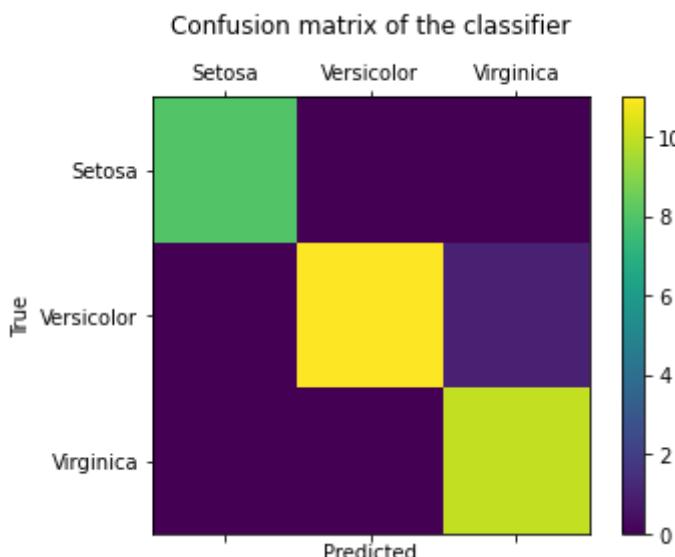
3.5.4 Confusion Matrix

```
In [ ]: ConMat = confusion_matrix(y2_test, y2_pred)
print(ConMat)
```

```
[[ 8  0  0]
 [ 0 11  1]
 [ 0  0 10]]
```

```
In [ ]: labels = ['Setosa', 'Versicolor', 'Virginica']

fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(ConMat)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()
```



3.5.5 Cross-Validation

```
In [ ]: X2_shuffle, y2_shuffle = shuffle(X2, y2, random_state=7)
```

```
In [ ]: scores = cross_val_score(RFC, X2_shuffle, y2_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

```
RMSE values: [ 0.37  0.   0.   0.18  0.18]
RMSE average: 0.1460593486680443
```

3.5.6 K-Fold

```
In [ ]: #Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
```

```

for train, test in kfold.split(X2):
    print("Train: %s \nTest: %s\n" % (train, test))

Train: [ 0  1  2  3  4  5  6  9 10 11 12 13 14 15 17 19 20 21
       23 25 28 29 30 31 32 34 35 36 38 39 41 42 43 46 47 48
       49 50 52 53 55 56 57 58 60 61 64 65 67 68 69 70 72 74
       75 77 79 80 81 82 85 87 88 89 91 92 94 95 96 98 99 101
      102 103 104 105 106 108 109 110 111 112 113 115 116 117 118 119 120 122
      123 124 125 128 129 130 131 133 135 136 138 139 140 141 142 143 144 145
      146 147 148 149]
Test: [ 7  8 16 18 22 24 26 27 33 37 40 44 45 51 54 59 62 63
       66 71 73 76 78 83 84 86 90 93 97 100 107 114 121 126 127 132
      134 137]

Train: [ 0  1  4  5  6  7  8  9 11 12 14 16 17 18 19 21 22 23
       24 25 26 27 28 29 31 32 33 34 35 36 37 38 39 40 41 42
       44 45 46 47 49 51 53 54 55 57 58 59 62 63 65 66 67 68
       70 71 72 73 74 75 76 77 78 79 81 82 83 84 86 87 88 90
       93 96 97 98 99 100 102 103 104 105 107 109 110 113 114 115 117 118
      120 121 122 124 126 127 128 129 130 131 132 134 136 137 138 139 140 142
      143 145 148 149]
Test: [ 2  3 10 13 15 20 30 43 48 50 52 56 60 61 64 69 80 85
       89 91 92 94 95 101 106 108 111 112 116 119 123 125 133 135 141 144
      146 147]

Train: [ 2  3  7  8  9 10 13 14 15 16 18 19 20 21 22 24 25 26
       27 29 30 31 32 33 36 37 39 40 43 44 45 47 48 49 50 51
       52 54 56 57 58 59 60 61 62 63 64 65 66 67 69 70 71 72
       73 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92
       93 94 95 97 99 100 101 103 106 107 108 111 112 114 115 116 117 118
      119 121 122 123 125 126 127 130 131 132 133 134 135 136 137 138 140 141
      142 144 145 146 147]
Test: [ 0  1  4  5  6 11 12 17 23 28 34 35 38 41 42 46 53 55
       68 74 75 96 98 102 104 105 109 110 113 120 124 128 129 139 143 148
      149]

Train: [ 0  1  2  3  4  5  6  7  8 10 11 12 13 15 16 17 18 20
       22 23 24 26 27 28 30 33 34 35 37 38 40 41 42 43 44 45
       46 48 50 51 52 53 54 55 56 59 60 61 62 63 64 66 68 69
       71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
       96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 114 116
      119 120 121 123 124 125 126 127 128 129 132 133 134 135 137 139 141 143
      144 146 147 148 149]
Test: [ 9 14 19 21 25 29 31 32 36 39 47 49 57 58 65 67 70 72
       77 79 81 82 87 88 99 103 115 117 118 122 130 131 136 138 140 142
      145]

```

In []:

```

#Output the accuracy
results = cross_val_score(RFC, X2, y2, cv=kfold)
print('Results from all folds: ', results)

```

Results from all folds: [0.97368421 0.92105263 1. 0.94594595]

In []:

```

#Printing the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))

```

Accuracy: 96.017% (2.959%)

4. Wine Dataset

4.1 Data Preparation

```
In [ ]: # Dataset-3: WINE
wine = datasets.load_wine()

#see keys from dictionary
print(wine.keys())
#show the class labels
print(list(wine.target_names))
#show feature names
print(list(wine.feature_names))
#number of samples and features
n_samples1, n_features1 = wine.data.shape
print('Number of samples:', n_samples1)
print('Number of features:', n_features1)

dict_keys(['data', 'target', 'target_names', 'DESCR', 'feature_names'])
['class_0', 'class_1', 'class_2']
['alcohol', 'malic_acid', 'ash', 'alcalinity_of_ash', 'magnesium', 'total_phenols',
'flavanoids', 'nonflavanoid_phenols', 'proanthocyanins', 'color_intensity', 'hue',
'od280/od315_of_diluted_wines', 'proline']
Number of samples: 178
Number of features: 13
```

```
In [ ]: #Define variables
X3 = wine.data
y3 = wine.target

#Creating a data frame using the wine.data
df_3 = DataFrame(data=wine.data, columns=["Alcohol", "Malic_acid", "Ash", "Alcalinit",
                                          "Flavanoids", "Nonflavanoid_phenols", "Proanthocyanins", "Color_intensity", "Hue", "OD280/OD315_of_diluted_wines", "Proline"])
#Append class/ Label data
df_3["class"] = wine.target

#Printing the dataframe
df_3.head()
```

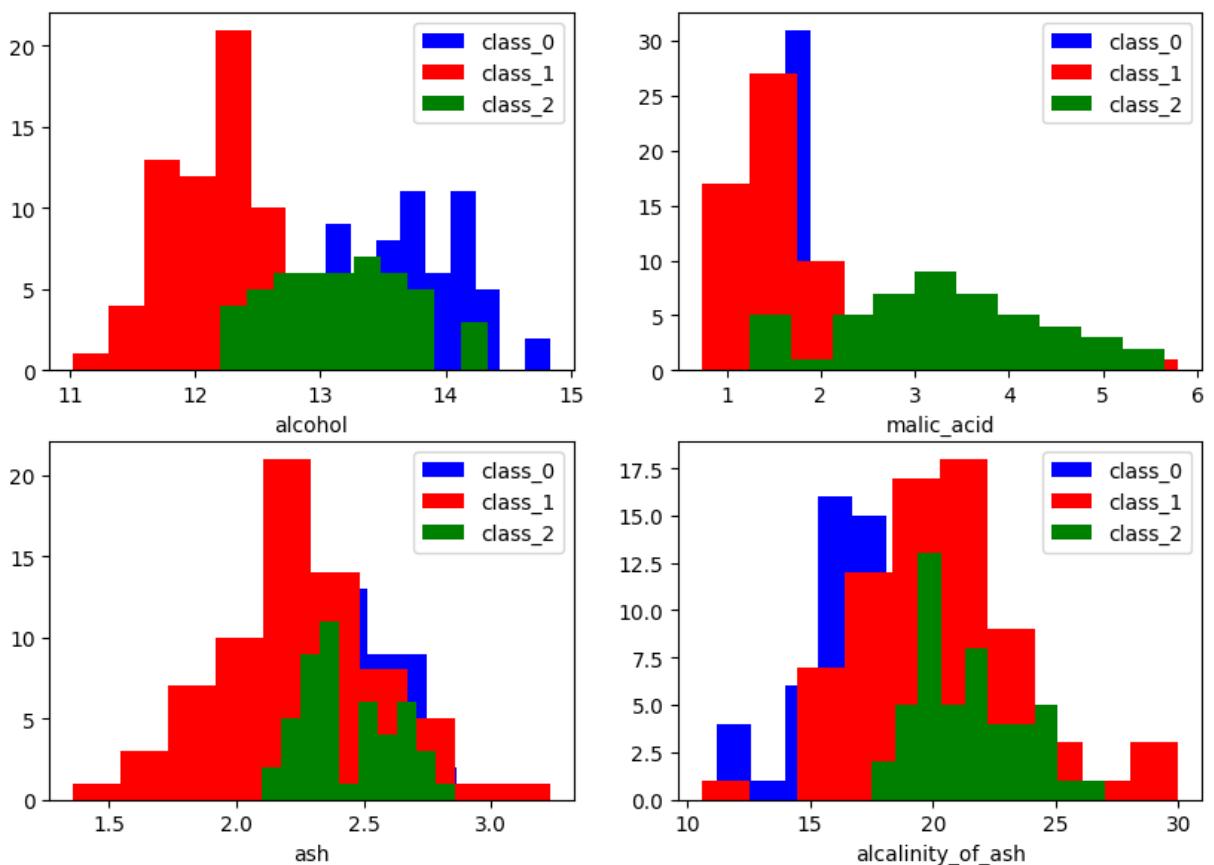
Out[]:

	Alcohol	Malic_acid	Ash	Alcalinity_of_ash	Magnesium	Total_phenols	Flavanoids	Nonflavanoid_phenols	Proanthocyanins	Color_intensity	Hue	OD280/OD315_of_diluted_wines	Proline
0	14.23	1.71	2.43	15.6	127.0	2.80	3.06	2.65	2.76	3.24	3.49	2.69	2.00
1	13.20	1.78	2.14	11.2	100.0	2.65	2.76	2.00	2.00	2.00	2.00	2.00	2.00
2	13.16	2.36	2.67	18.6	101.0	2.80	3.24	2.00	2.00	2.00	2.00	2.00	2.00
3	14.37	1.95	2.50	16.8	113.0	3.85	3.49	2.00	2.00	2.00	2.00	2.00	2.00
4	13.24	2.59	2.87	21.0	118.0	2.80	2.69	2.00	2.00	2.00	2.00	2.00	2.00

In []:

```
#Creating Histograms
fig, axes = plt.subplots(nrows=2, ncols=2, figsize=(10,7), dpi=100, )
colors = ['blue', 'red', 'green']

for i, ax in enumerate(axes.flat):
    for label, color in zip(range(len(wine.target_names)), colors):
        ax.hist(wine.data[wine.target==label, i], label=wine.target_names[label], color=color)
        ax.set_xlabel(wine.feature_names[i])
        ax.legend(loc='upper right')
```



```
In [ ]: #Making a dataframe for wine
df_wine = pd.DataFrame(np.c_[wine['data'], wine['target']], columns = np.append(wine
```

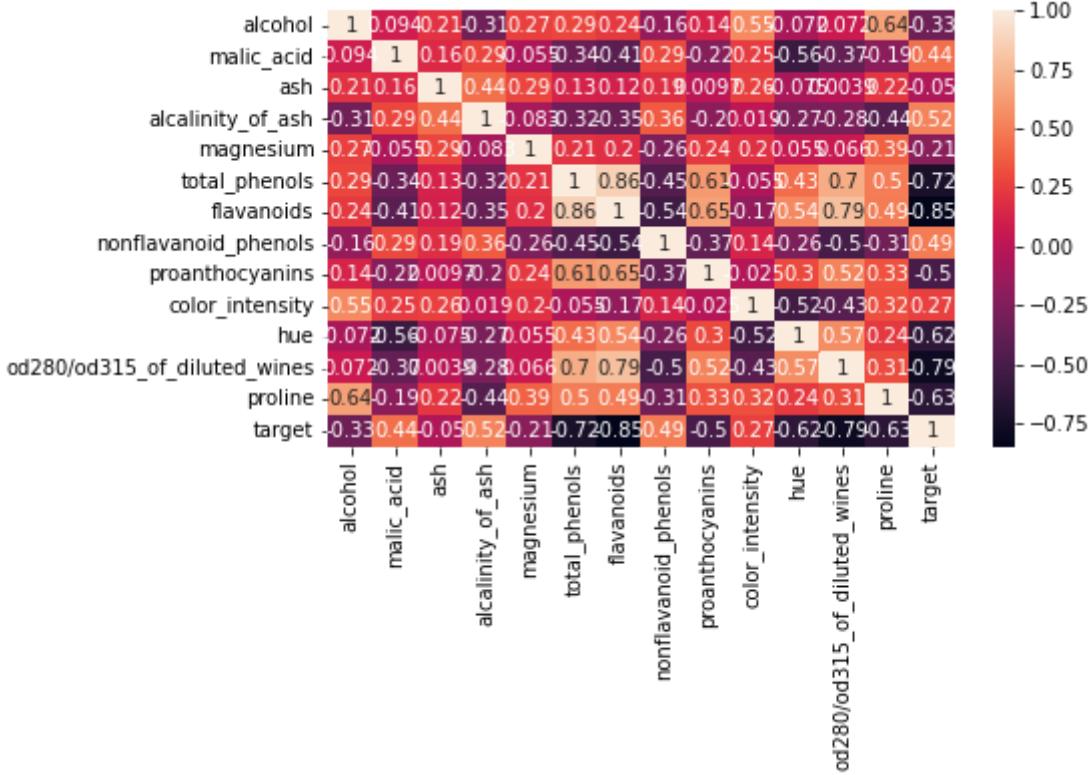
#Describing the data
df_wine.describe()

```
Out[ ]:
```

	alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavanoids
count	178.000000	178.000000	178.000000	178.000000	178.000000	178.000000	178.000000
mean	13.000618	2.336348	2.366517	19.494944	99.741573	2.295112	2.029270
std	0.811827	1.117146	0.274344	3.339564	14.282484	0.625851	0.998859
min	11.030000	0.740000	1.360000	10.600000	70.000000	0.980000	0.340000
25%	12.362500	1.602500	2.210000	17.200000	88.000000	1.742500	1.205000
50%	13.050000	1.865000	2.360000	19.500000	98.000000	2.355000	2.135000
75%	13.677500	3.082500	2.557500	21.500000	107.000000	2.800000	2.875000
max	14.830000	5.800000	3.230000	30.000000	162.000000	3.880000	5.080000

```
In [ ]: #Correlation matrix
corr = df_wine.corr()
fig, ax = plt.subplots(figsize=(7,4))
sns.heatmap(corr, annot=True, ax=ax)
```

```
Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7fa42d9b7990>
```



```
In [ ]: for col in df_wine.columns:
    print(col)
```

```
alcohol
malic_acid
ash
alcalinity_of_ash
magnesium
total_phenols
flavanoids
nonflavanoid_phenols
proanthocyanins
color_intensity
hue
od280/od315_of_diluted_wines
proline
target
```

```
In [ ]: #Creating violin plots
plt.figure(figsize=(20,10))
plt.subplot(2,4,1)
sns.violinplot(x='target',y='alcohol', data=df_wine)
plt.subplot(2,4,2)
sns.violinplot(x='target',y='malic_acid', data=df_wine)
plt.subplot(2,4,3)
sns.violinplot(x='target',y='ash', data=df_wine)
plt.subplot(2,4,4)
sns.violinplot(x='target',y='alcalinity_of_ash', data=df_wine)
plt.subplot(2,4,5)
sns.violinplot(x='target',y='magnesium', data=df_wine)
plt.subplot(2,4,6)
sns.violinplot(x='target',y='total_phenols', data=df_wine)
plt.subplot(2,4,7)
sns.violinplot(x='target',y='flavanoids', data=df_wine)
plt.subplot(2,4,8)
sns.violinplot(x='target',y='nonflavanoid_phenols', data=df_wine)

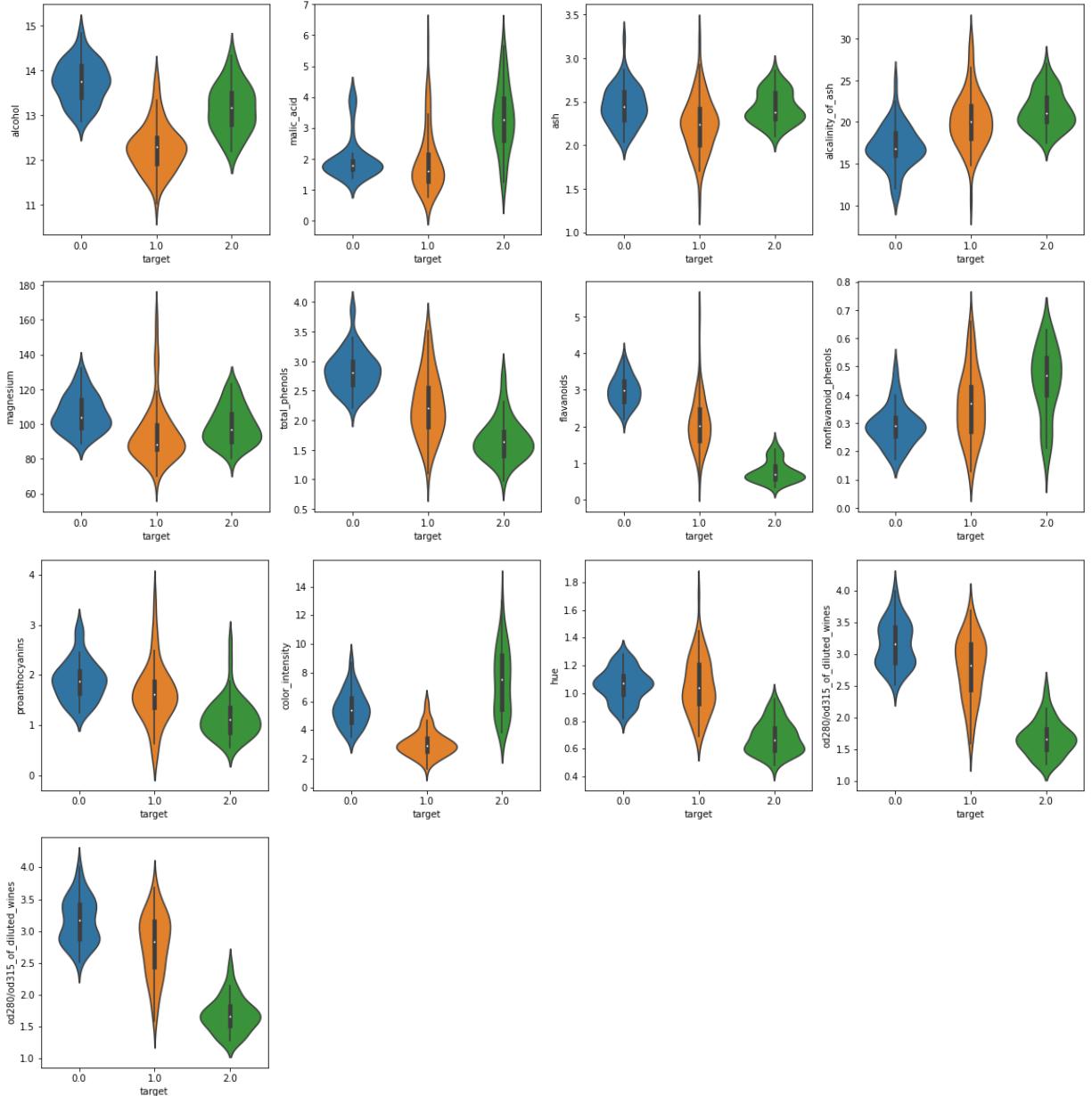
plt.figure(figsize=(20,10))
plt.subplot(2,4,1)
```

```

sns.violinplot(x='target',y='proanthocyanins', data=df_wine)
plt.subplot(2,4,2)
sns.violinplot(x='target',y='color_intensity', data=df_wine)
plt.subplot(2,4,3)
sns.violinplot(x='target',y='hue', data=df_wine)
plt.subplot(2,4,4)
sns.violinplot(x='target',y='od280/od315_of_diluted_wines', data=df_wine)
plt.subplot(2,4,5)
sns.violinplot(x='target',y='od280/od315_of_diluted_wines', data=df_wine)

```

Out[]: <matplotlib.axes._subplots.AxesSubplot at 0x7fa4203e60d0>



In []:

```

#splitting the dataset into train-test
X3_train, X3_test, y3_train, y3_test = train_test_split(X3, y3, test_size=0.4, shuffle=True)

#splitting the dataset into train-validation-test
X3_train, X3_val, y3_train, y3_val = train_test_split(X3_train, y3_train, test_size=0.25, shuffle=True)

```

4.2 Logistic Regression

In []:

```

#Logistic Regression model
LogReg = LogisticRegression(max_iter=10000)

```

```
#fitting data to a Logistic Regression model
LogReg.fit(X3_train, y3_train)
```

```
Out[ ]: LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                           intercept_scaling=1, l1_ratio=None, max_iter=10000,
                           multi_class='auto', n_jobs=None, penalty='l2',
                           random_state=None, solver='lbfgs', tol=0.0001, verbose=0,
                           warm_start=False)
```

4.2.1 Making Predictions

```
In [ ]: #make predictions (assign class labels)
y3_pred = LogReg.predict(X3_test)

#Show the inputs and predicted outputs
for i in range (len(X3_test)):
    print("X{0} = {1}, Class Predicted = {2}".format(i, X3_test[i], y3_pred[i]))
```

```
X0 = [1.41e+01 2.02e+00 2.40e+00 1.88e+01 1.03e+02 2.75e+00 2.92e+00 3.20e-01
      2.38e+00 6.20e+00 1.07e+00 2.75e+00 1.06e+03], Class Predicted = 0
X1 = [1.345e+01 3.700e+00 2.600e+00 2.300e+01 1.110e+02 1.700e+00 9.200e-01
      4.300e-01 1.460e+00 1.068e+01 8.500e-01 1.560e+00 6.950e+02], Class Predicted = 2
X2 = [1.311e+01 1.010e+00 1.700e+00 1.500e+01 7.800e+01 2.980e+00 3.180e+00
      2.600e-01 2.280e+00 5.300e+00 1.120e+00 3.180e+00 5.020e+02], Class Predicted = 1
X3 = [ 12.22   1.29   1.94   19.     92.     2.36   2.04   0.39   2.08   2.7
      0.86   3.02 312. ], Class Predicted = 1
X4 = [1.258e+01 1.290e+00 2.100e+00 2.000e+01 1.030e+02 1.480e+00 5.800e-01
      5.300e-01 1.400e+00 7.600e+00 5.800e-01 1.550e+00 6.400e+02], Class Predicted = 2
X5 = [1.369e+01 3.260e+00 2.540e+00 2.000e+01 1.070e+02 1.830e+00 5.600e-01
      5.000e-01 8.000e-01 5.880e+00 9.600e-01 1.820e+00 6.800e+02], Class Predicted = 2
X6 = [1.378e+01 2.760e+00 2.300e+00 2.200e+01 9.000e+01 1.350e+00 6.800e-01
      4.100e-01 1.030e+00 9.580e+00 7.000e-01 1.680e+00 6.150e+02], Class Predicted = 2
X7 = [1.406e+01 1.630e+00 2.280e+00 1.600e+01 1.260e+02 3.000e+00 3.170e+00
      2.400e-01 2.100e+00 5.650e+00 1.090e+00 3.710e+00 7.800e+02], Class Predicted = 0
X8 = [ 12.53   5.51   2.64   25.     96.     1.79   0.6    0.63   1.1    5.
      0.82   1.69 515. ], Class Predicted = 2
X9 = [1.293e+01 3.800e+00 2.650e+00 1.860e+01 1.020e+02 2.410e+00 2.410e+00
      2.500e-01 1.980e+00 4.500e+00 1.030e+00 3.520e+00 7.700e+02], Class Predicted = 0
X10 = [1.208e+01 1.330e+00 2.300e+00 2.360e+01 7.000e+01 2.200e+00 1.590e+00
      4.200e-01 1.380e+00 1.740e+00 1.070e+00 3.210e+00 6.250e+02], Class Predicted = 1
X11 = [1.316e+01 2.360e+00 2.670e+00 1.860e+01 1.010e+02 2.800e+00 3.240e+00
      3.000e-01 2.810e+00 5.680e+00 1.030e+00 3.170e+00 1.185e+03], Class Predicted = 0
X12 = [1.26e+01 2.46e+00 2.20e+00 1.85e+01 9.40e+01 1.62e+00 6.60e-01 6.30e-01
      9.40e-01 7.10e+00 7.30e-01 1.58e+00 6.95e+02], Class Predicted = 2
X13 = [1.386e+01 1.510e+00 2.670e+00 2.500e+01 8.600e+01 2.950e+00 2.860e+00
      2.100e-01 1.870e+00 3.380e+00 1.360e+00 3.160e+00 4.100e+02], Class Predicted = 1
X14 = [1.387e+01 1.900e+00 2.800e+00 1.940e+01 1.070e+02 2.950e+00 2.970e+00
      3.700e-01 1.760e+00 4.500e+00 1.250e+00 3.400e+00 9.150e+02], Class Predicted = 0
X15 = [1.245e+01 3.030e+00 2.640e+00 2.700e+01 9.700e+01 1.900e+00 5.800e-01
      6.300e-01 1.140e+00 7.500e+00 6.700e-01 1.730e+00 8.800e+02], Class Predicted = 2
X16 = [1.388e+01 1.890e+00 2.590e+00 1.500e+01 1.010e+02 3.250e+00 3.560e+00
      1.700e-01 1.700e+00 5.430e+00 8.800e-01 3.560e+00 1.095e+03], Class Predicted = 0
X17 = [1.349e+01 1.660e+00 2.240e+00 2.400e+01 8.700e+01 1.880e+00 1.840e+00
      2.700e-01 1.030e+00 3.740e+00 9.800e-01 2.780e+00 4.720e+02], Class Predicted = 1
X18 = [ 12.43   1.53   2.29   21.5    86.     2.74   3.15   0.39   1.77   3.94
      0.69   2.84 352. ], Class Predicted = 1
X19 = [1.181e+01 2.120e+00 2.740e+00 2.150e+01 1.340e+02 1.600e+00 9.900e-01
      1.400e-01 1.560e+00 2.500e+00 9.500e-01 2.260e+00 6.250e+02], Class Predicted = 1
X20 = [1.358e+01 2.580e+00 2.690e+00 2.450e+01 1.050e+02 1.550e+00 8.400e-01
      3.900e-01 1.540e+00 8.660e+00 7.400e-01 1.800e+00 7.500e+02], Class Predicted = 2
X21 = [1.368e+01 1.830e+00 2.360e+00 1.720e+01 1.040e+02 2.420e+00 2.690e+00
      4.200e-01 1.970e+00 3.840e+00 1.230e+00 2.870e+00 9.900e+02], Class Predicted = 0
X22 = [1.323e+01 3.300e+00 2.280e+00 1.850e+01 9.800e+01 1.800e+00 8.300e-01
      6.100e-01 1.870e+00 1.052e+01 5.600e-01 1.510e+00 6.750e+02], Class Predicted = 2
X23 = [1.43e+01 1.92e+00 2.72e+00 2.00e+01 1.20e+02 2.80e+00 3.14e+00 3.30e-01
```

1.97e+00 6.20e+00 1.07e+00 2.65e+00 1.28e+03], Class Predicted = 0
 X24 = [1.328e+01 1.640e+00 2.840e+00 1.550e+01 1.100e+02 2.600e+00 2.680e+00
 3.400e-01 1.360e+00 4.600e+00 1.090e+00 2.780e+00 8.800e+02], Class Predicted = 0
 X25 = [1.377e+01 1.900e+00 2.680e+00 1.710e+01 1.150e+02 3.000e+00 2.790e+00
 3.900e-01 1.680e+00 6.300e+00 1.130e+00 2.930e+00 1.375e+03], Class Predicted = 0
 X26 = [1.367e+01 1.250e+00 1.920e+00 1.800e+01 9.400e+01 2.100e+00 1.790e+00
 3.200e-01 7.300e-01 3.800e+00 1.230e+00 2.460e+00 6.300e+02], Class Predicted = 1
 X27 = [1.324e+01 2.590e+00 2.870e+00 2.100e+01 1.180e+02 2.800e+00 2.690e+00
 3.900e-01 1.820e+00 4.320e+00 1.040e+00 2.930e+00 7.350e+02], Class Predicted = 1
 X28 = [1.267e+01 9.800e-01 2.240e+00 1.800e+01 9.900e+01 2.200e+00 1.940e+00
 3.000e-01 1.460e+00 2.620e+00 1.230e+00 3.160e+00 4.500e+02], Class Predicted = 1
 X29 = [1.356e+01 1.730e+00 2.460e+00 2.050e+01 1.160e+02 2.960e+00 2.780e+00
 2.000e-01 2.450e+00 6.250e+00 9.800e-01 3.030e+00 1.120e+03], Class Predicted = 0
 X30 = [1.233e+01 1.100e+00 2.280e+00 1.600e+01 1.010e+02 2.050e+00 1.090e+00
 6.300e-01 4.100e-01 3.270e+00 1.250e+00 1.670e+00 6.800e+02], Class Predicted = 1
 X31 = [1.406e+01 2.150e+00 2.610e+00 1.760e+01 1.210e+02 2.600e+00 2.510e+00
 3.100e-01 1.250e+00 5.050e+00 1.060e+00 3.580e+00 1.295e+03], Class Predicted = 0
 X32 = [1.251e+01 1.730e+00 1.980e+00 2.050e+01 8.500e+01 2.200e+00 1.920e+00
 3.200e-01 1.480e+00 2.940e+00 1.040e+00 3.570e+00 6.720e+02], Class Predicted = 1
 X33 = [1.327e+01 4.280e+00 2.260e+00 2.000e+01 1.200e+02 1.590e+00 6.900e-01
 4.300e-01 1.350e+00 1.020e+01 5.900e-01 1.560e+00 8.350e+02], Class Predicted = 2
 X34 = [1.311e+01 1.900e+00 2.750e+00 2.550e+01 1.160e+02 2.200e+00 1.280e+00
 2.600e-01 1.560e+00 7.100e+00 6.100e-01 1.330e+00 4.250e+02], Class Predicted = 2
 X35 = [12.42 2.55 2.27 22. 90. 1.68 1.84 0.66 1.42 2.7
 0.86 3.3 315.], Class Predicted = 1
 X36 = [1.382e+01 1.750e+00 2.420e+00 1.400e+01 1.110e+02 3.880e+00 3.740e+00
 3.200e-01 1.870e+00 7.050e+00 1.010e+00 3.260e+00 1.190e+03], Class Predicted = 0
 X37 = [1.161e+01 1.350e+00 2.700e+00 2.000e+01 9.400e+01 2.740e+00 2.920e+00
 2.900e-01 2.490e+00 2.650e+00 9.600e-01 3.260e+00 6.800e+02], Class Predicted = 1
 X38 = [1.371e+01 5.650e+00 2.450e+00 2.050e+01 9.500e+01 1.680e+00 6.100e-01
 5.200e-01 1.060e+00 7.700e+00 6.400e-01 1.740e+00 7.400e+02], Class Predicted = 2
 X39 = [1.285e+01 1.600e+00 2.520e+00 1.780e+01 9.500e+01 2.480e+00 2.370e+00
 2.600e-01 1.460e+00 3.930e+00 1.090e+00 3.630e+00 1.015e+03], Class Predicted = 0
 X40 = [1.165e+01 1.670e+00 2.620e+00 2.600e+01 8.800e+01 1.920e+00 1.610e+00
 4.000e-01 1.340e+00 2.600e+00 1.360e+00 3.210e+00 5.620e+02], Class Predicted = 1
 X41 = [1.233e+01 9.900e-01 1.950e+00 1.480e+01 1.360e+02 1.900e+00 1.850e+00
 3.500e-01 2.760e+00 3.400e+00 1.060e+00 2.310e+00 7.500e+02], Class Predicted = 1
 X42 = [12.08 1.83 2.32 18.5 81. 1.6 1.5 0.52 1.64 2.4
 1.08 2.27 480.], Class Predicted = 1
 X43 = [1.336e+01 2.560e+00 2.350e+00 2.000e+01 8.900e+01 1.400e+00 5.000e-01
 3.700e-01 6.400e-01 5.600e+00 7.000e-01 2.470e+00 7.800e+02], Class Predicted = 2
 X44 = [1.281e+01 2.310e+00 2.400e+00 2.400e+01 9.800e+01 1.150e+00 1.090e+00
 2.700e-01 8.300e-01 5.700e+00 6.600e-01 1.360e+00 5.600e+02], Class Predicted = 2
 X45 = [12.77 3.43 1.98 16. 80. 1.63 1.25 0.43 0.83 3.4
 0.7 2.12 372.], Class Predicted = 1
 X46 = [12.42 4.43 2.73 26.5 102. 2.2 2.13 0.43 1.71 2.08
 0.92 3.12 365.], Class Predicted = 1
 X47 = [1.208e+01 2.080e+00 1.700e+00 1.750e+01 9.700e+01 2.230e+00 2.170e+00
 2.600e-01 1.400e+00 3.300e+00 1.270e+00 2.960e+00 7.100e+02], Class Predicted = 1
 X48 = [1.305e+01 5.800e+00 2.130e+00 2.150e+01 8.600e+01 2.620e+00 2.650e+00
 3.000e-01 2.010e+00 2.600e+00 7.300e-01 3.100e+00 3.800e+02], Class Predicted = 1
 X49 = [1.351e+01 1.800e+00 2.650e+00 1.900e+01 1.100e+02 2.350e+00 2.530e+00
 2.900e-01 1.540e+00 4.200e+00 1.100e+00 2.870e+00 1.095e+03], Class Predicted = 0
 X50 = [1.242e+01 1.610e+00 2.190e+00 2.250e+01 1.080e+02 2.000e+00 2.090e+00
 3.400e-01 1.610e+00 2.060e+00 1.060e+00 2.960e+00 3.450e+02], Class Predicted = 1
 X51 = [1.293e+01 2.810e+00 2.700e+00 2.100e+01 9.600e+01 1.540e+00 5.000e-01
 5.300e-01 7.500e-01 4.600e+00 7.700e-01 2.310e+00 6.000e+02], Class Predicted = 2
 X52 = [1.229e+01 1.410e+00 1.980e+00 1.600e+01 8.500e+01 2.550e+00 2.500e+00
 2.900e-01 1.770e+00 2.900e+00 1.230e+00 2.740e+00 4.280e+02], Class Predicted = 1
 X53 = [1.145e+01 2.400e+00 2.420e+00 2.000e+01 9.600e+01 2.900e+00 2.790e+00
 3.200e-01 1.830e+00 3.250e+00 8.000e-01 3.390e+00 6.250e+02], Class Predicted = 1
 X54 = [1.373e+01 4.360e+00 2.260e+00 2.250e+01 8.800e+01 1.280e+00 4.700e-01
 5.200e-01 1.150e+00 6.620e+00 7.800e-01 1.750e+00 5.200e+02], Class Predicted = 2
 X55 = [1.394e+01 1.730e+00 2.270e+00 1.740e+01 1.080e+02 2.880e+00 3.540e+00
 3.200e-01 2.080e+00 8.900e+00 1.120e+00 3.100e+00 1.260e+03], Class Predicted = 0
 X56 = [1.272e+01 3.55e+00 2.36e+00 2.15e+01 1.06e+02 1.70e+00 1.20e+00 1.70e-01
 8.40e-01 5.00e+00 7.80e-01 1.29e+00 6.00e+02], Class Predicted = 2
 X57 = [1.330e+01 1.720e+00 2.140e+00 1.700e+01 9.400e+01 2.400e+00 2.190e+00
 2.700e-01 1.350e+00 3.950e+00 1.020e+00 2.770e+00 1.285e+03], Class Predicted = 0

```

X58 = [1.364e+01 3.100e+00 2.560e+00 1.520e+01 1.160e+02 2.700e+00 3.030e+00
       1.700e-01 1.660e+00 5.100e+00 9.600e-01 3.360e+00 8.450e+02], Class Predicted = 0
X59 = [1.236e+01 3.830e+00 2.380e+00 2.100e+01 8.800e+01 2.300e+00 9.200e-01
       5.000e-01 1.040e+00 7.650e+00 5.600e-01 1.580e+00 5.200e+02], Class Predicted = 2
X60 = [1.305e+01 1.730e+00 2.040e+00 1.240e+01 9.200e+01 2.720e+00 3.270e+00
       1.700e-01 2.910e+00 7.200e+00 1.120e+00 2.910e+00 1.150e+03], Class Predicted = 0
X61 = [1.20e+01 3.43e+00 2.00e+00 1.90e+01 8.70e+01 2.00e+00 1.64e+00 3.70e-01
       1.87e+00 1.28e+00 9.30e-01 3.05e+00 5.64e+02], Class Predicted = 1
X62 = [ 13.05   3.86   2.32   22.5   85.    1.65   1.59   0.61   1.62   4.8
       0.84   2.01 515. ], Class Predicted = 2
X63 = [1.308e+01 3.900e+00 2.360e+00 2.150e+01 1.130e+02 1.410e+00 1.390e+00
       3.400e-01 1.140e+00 9.400e+00 5.700e-01 1.330e+00 5.500e+02], Class Predicted = 2
X64 = [1.373e+01 1.500e+00 2.700e+00 2.250e+01 1.010e+02 3.000e+00 3.250e+00
       2.900e-01 2.380e+00 5.700e+00 1.190e+00 2.710e+00 1.285e+03], Class Predicted = 0
X65 = [1.371e+01 1.860e+00 2.360e+00 1.660e+01 1.010e+02 2.610e+00 2.880e+00
       2.700e-01 1.690e+00 3.800e+00 1.110e+00 4.000e+00 1.035e+03], Class Predicted = 0
X66 = [1.141e+01 7.400e-01 2.500e+00 2.100e+01 8.800e+01 2.480e+00 2.010e+00
       4.200e-01 1.440e+00 3.080e+00 1.100e+00 2.310e+00 4.340e+02], Class Predicted = 1
X67 = [1.32e+01 1.78e+00 2.14e+00 1.12e+01 1.00e+02 2.65e+00 2.76e+00 2.60e-01
       1.28e+00 4.38e+00 1.05e+00 3.40e+00 1.05e+03], Class Predicted = 0
X68 = [1.316e+01 3.570e+00 2.150e+00 2.100e+01 1.020e+02 1.500e+00 5.500e-01
       4.300e-01 1.300e+00 4.000e+00 6.000e-01 1.680e+00 8.300e+02], Class Predicted = 2
X69 = [1.34e+01 4.60e+00 2.86e+00 2.50e+01 1.12e+02 1.98e+00 9.60e-01 2.70e-01
       1.11e+00 8.50e+00 6.70e-01 1.92e+00 6.30e+02], Class Predicted = 2
X70 = [ 12.     1.51   2.42   22.     86.    1.45   1.25   0.5    1.63   3.6
       1.05   2.65 450. ], Class Predicted = 1
X71 = [1.284e+01 2.960e+00 2.610e+00 2.400e+01 1.010e+02 2.320e+00 6.000e-01
       5.300e-01 8.100e-01 4.920e+00 8.900e-01 2.150e+00 5.900e+02], Class Predicted = 2

```

```
In [ ]: #Create a new dataframe
df_new_LR = DataFrame(dict(x=X3_test[:,0], y=X3_test[:,1], label=y3_pred))
df_new_LR.head()
```

```
Out[ ]:   x      y  label
0  14.10  2.02      0
1  13.45  3.70      2
2  13.11  1.01      1
3  12.22  1.29      1
4  12.58  1.29      2
```

4.2.2 Testing Predictions

```
In [ ]: #model score in test, returning the R^2
LogReg.score(X3_test, y3_test)
```

```
Out[ ]: 0.9444444444444444
```

4.2.3 Metrics and Scoring

```
In [ ]: #accuracy score
accuracy_score(y3_test, y3_pred)
```

```
Out[ ]: 0.9444444444444444
```

```
In [ ]: #ROC Score
roc_auc_score(y3, LogReg.predict_proba(X3), multi_class='ovr')
```

```
Out[ ]: 0.9948011967098891
```

```
In [ ]:  
# r squared  
correlation_matrix= np.corrcoef(y3_test, y3_pred)  
correlation_xy=correlation_matrix[0,1]  
r_squared=correlation_xy**2  
  
print(r_squared)
```

```
0.9572438445805752
```

```
In [ ]:  
#F1 Score  
print(f1_score(y3_test, y3_pred, average='macro'))  
print(f1_score(y3_test, y3_pred, average='micro'))  
print(f1_score(y3_test, y3_pred, average='weighted'))  
  
0.9476942183874235  
0.9444444444444444  
0.9441900622065345
```

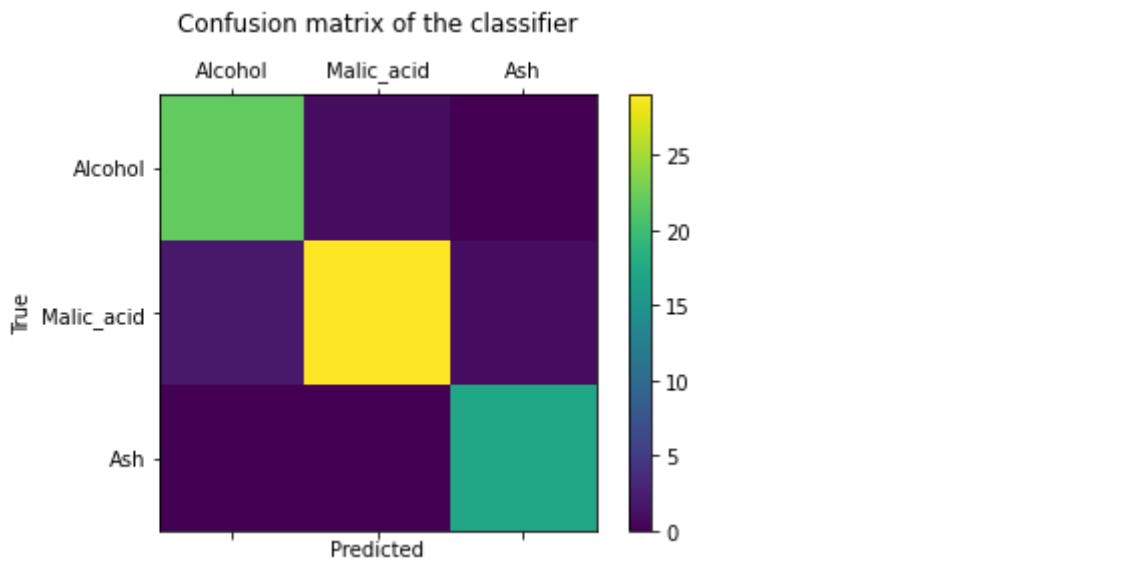
```
In [ ]:  
from sklearn.metrics import precision_score  
print(precision_score(y3_test, y3_pred, average='macro'))  
print(precision_score(y3_test, y3_pred, average='micro'))  
print(precision_score(y3_test, y3_pred, average='weighted'))  
  
0.9425925925925925  
0.9444444444444444  
0.9454475308641975
```

```
In [ ]:  
from sklearn.metrics import recall_score  
print(recall_score(y3_test, y3_pred, average='macro'))  
print(recall_score(y3_test, y3_pred, average='micro'))  
print(recall_score(y3_test, y3_pred, average='weighted'))  
  
0.9542572463768115  
0.9444444444444444  
0.9444444444444444
```

4.2.4 Confusion Matrix

```
In [ ]:  
ConMat = confusion_matrix(y3_test, y3_pred)  
print(ConMat)  
  
[[22  1  0]  
 [ 2 29  1]  
 [ 0  0 17]]
```

```
In [ ]:  
#Confusion Matrix  
labels = ["Alcohol", "Malic_acid", "Ash", "Alcalinity_of_ash", "Magnesium", "Total_p  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(ConMat)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



4.2.5 Cross Validation

```
In [ ]: X_shuffle, y_shuffle = shuffle(X3, y3, random_state=7)
```

```
In [ ]: scores = cross_val_score(LogReg, X_shuffle, y_shuffle,
                           scoring="neg_mean_squared_error",
                           cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0. 0.24 0. 0.24 0.29]
RMSE average: 0.1535036008293909

4.2.6 K-Fold

```
In [ ]: # define the folds
kfolds = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfolds.split(X3):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0   1   2   3   6   9   10  11  12  13  14  15  16  17  19  20  21  22
       23  25  27  28  29  31  32  34  35  36  38  39  40  41  42  43  46  47
       48  49  50  52  53  57  58  59  62  64  65  67  68  69  70  71  72  73
       74  75  76  77  78  79  81  82  83  84  85  87  88  89  91  95  96  97
       99 100 102 103 105 107 108 109 110 114 115 116 117 118 119 120 122 124
      125 127 128 130 131 132 133 134 135 136 137 138 139 140 142 143 144 145
      147 148 149 150 152 153 154 155 156 157 158 159 162 163 165 166 167 169
      170 171 172 173 175 176 177]
Test: [ 4   5   7   8   18  24  26  30  33  37  44  45  51  54  55  56  60  61
       63  66  80  86  90  92  93  94  98 101 104 106 111 112 113 121 123 126
      129 141 146 151 160 161 164 168 174]
```

```
Train: [ 0   1   3   4   5   6   7   8   9   11  12  13  14  15  17  18  20  21
       23  24  25  26  28  29  30  31  32  33  34  35  36  37  38  39  41  42
       44  45  46  47  48  49  51  52  53  54  55  56  57  58  60  61  63  65
       66  67  68  70  72  75  76  77  78  79  80  81  82  84  85  86  87  88
       90  91  92  93  94  98  99  100 101 102 103 104 105 106 107 111 112 113
      114 115 117 119 120 121 123 126 127 128 129 130 132 133 136 137 139 140
      141 142 143 146 147 148 149 150 151 152 153 154 157 160 161 164 165 167
      168 169 172 173 174 176 177]
Test: [ 2   10  16  19  22  27  40  43  50  59  62  64  69  71  73  74  83  89]
```

```

95 96 97 108 109 110 116 118 122 124 125 131 134 135 138 144 145 155
156 158 159 162 163 166 170 171 175]

Train: [ 2 4 5 7 8 9 10 16 17 18 19 21 22 24 25 26 27 28
29 30 31 32 33 34 36 37 38 39 40 43 44 45 47 50 51 53
54 55 56 58 59 60 61 62 63 64 66 67 69 70 71 72 73 74
77 79 80 81 82 83 86 87 88 89 90 92 93 94 95 96 97 98
99 101 103 104 106 108 109 110 111 112 113 114 115 116 117 118 121 122
123 124 125 126 127 128 129 131 133 134 135 138 139 140 141 142 144 145
146 147 148 149 150 151 155 156 157 158 159 160 161 162 163 164 166 167
168 169 170 171 172 174 175 177]
Test: [ 0 1 3 6 11 12 13 14 15 20 23 35 41 42 46 48 49 52
57 65 68 75 76 78 84 85 91 100 102 105 107 119 120 130 132 136
137 143 152 153 154 165 173 176]

Train: [ 0 1 2 3 4 5 6 7 8 10 11 12 13 14 15 16 18 19
20 22 23 24 26 27 30 33 35 37 40 41 42 43 44 45 46 48
49 50 51 52 54 55 56 57 59 60 61 62 63 64 65 66 68 69
71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 116 118
119 120 121 122 123 124 125 126 129 130 131 132 134 135 136 137 138 141
143 144 145 146 151 152 153 154 155 156 158 159 160 161 162 163 164 165
166 168 170 171 173 174 175 176]
Test: [ 9 17 21 25 28 29 31 32 34 36 38 39 47 53 58 67 70 72
77 79 81 82 87 88 99 103 114 115 117 127 128 133 139 140 142 147
148 149 150 157 167 169 172 177]

```

```
In [ ]: # Output the accuracy
results = cross_val_score(LogReg, X3, y3, cv=kfold)
print('Results from all folds: ', results)

Results from all folds: [0.97777778 0.86666667 0.97727273 0.95454545]

In [ ]: # print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))

Accuracy: 94.407% (4.566%)
```

4.3 Support Vector Machines

```
In [ ]: #Support Vector Machine (SVM)
svm_model= SVC(C=0.5, kernel="linear", probability=True)
#fitting the model
svm_model.fit(X3_train, y3_train)

Out[ ]: SVC(C=0.5, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
           decision_function_shape='ovr', degree=3, gamma='scale', kernel='linear',
           max_iter=-1, probability=True, random_state=None, shrinking=True, tol=0.001,
           verbose=False)

In [ ]: #model score in training returns the coefficient of determination R^2 where 1=100%
svm_model.score(X3_train, y3_train)

Out[ ]: 1.0
```

4.3.1 Making Predictions

```
In [ ]: #making predictions (assigning class labels)
y3_pred = svm_model.predict((X3_test))
```

```

#showing the inputs and predicted outputs
for i in range(len(X3_test)):
    print("X{0} = {1}, Class Predicted = {2}".format(i, X3_test[i], y3_pred[i]))


X0 = [1.41e+01 2.02e+00 2.40e+00 1.88e+01 1.03e+02 2.75e+00 2.92e+00 3.20e-01
      2.38e+00 6.20e+00 1.07e+00 2.75e+00 1.06e+03], Class Predicted = 0
X1 = [1.345e+01 3.700e+00 2.600e+00 2.300e+01 1.110e+02 1.700e+00 9.200e-01
      4.300e-01 1.460e+00 1.068e+01 8.500e-01 1.560e+00 6.950e+02], Class Predicted = 2
X2 = [1.311e+01 1.010e+00 1.700e+00 1.500e+01 7.800e+01 2.980e+00 3.180e+00
      2.600e-01 2.280e+00 5.300e+00 1.120e+00 3.180e+00 5.020e+02], Class Predicted = 1
X3 = [ 12.22   1.29   1.94   19.    92.    2.36   2.04   0.39   2.08   2.7
      0.86   3.02 312. ], Class Predicted = 1
X4 = [1.258e+01 1.290e+00 2.100e+00 2.000e+01 1.030e+02 1.480e+00 5.800e-01
      5.300e-01 1.400e+00 7.600e+00 5.800e-01 1.550e+00 6.400e+02], Class Predicted = 2
X5 = [1.369e+01 3.260e+00 2.540e+00 2.000e+01 1.070e+02 1.830e+00 5.600e-01
      5.000e-01 8.000e-01 5.880e+00 9.600e-01 1.820e+00 6.800e+02], Class Predicted = 2
X6 = [1.378e+01 2.760e+00 2.300e+00 2.200e+01 9.000e+01 1.350e+00 6.800e-01
      4.100e-01 1.030e+00 9.580e+00 7.000e-01 1.680e+00 6.150e+02], Class Predicted = 2
X7 = [1.406e+01 1.630e+00 2.280e+00 1.600e+01 1.260e+02 3.000e+00 3.170e+00
      2.400e-01 2.100e+00 5.650e+00 1.090e+00 3.710e+00 7.800e+02], Class Predicted = 0
X8 = [ 12.53   5.51   2.64   25.    96.    1.79   0.6    0.63   1.1    5.
      0.82   1.69 515. ], Class Predicted = 2
X9 = [1.293e+01 3.800e+00 2.650e+00 1.860e+01 1.020e+02 2.410e+00 2.410e+00
      2.500e-01 1.980e+00 4.500e+00 1.030e+00 3.520e+00 7.700e+02], Class Predicted = 0
X10 = [1.208e+01 1.330e+00 2.300e+00 2.360e+01 7.000e+01 2.200e+00 1.590e+00
      4.200e-01 1.380e+00 1.740e+00 1.070e+00 3.210e+00 6.250e+02], Class Predicted = 1
X11 = [1.316e+01 2.360e+00 2.670e+00 1.860e+01 1.010e+02 2.800e+00 3.240e+00
      3.000e-01 2.810e+00 5.680e+00 1.030e+00 3.170e+00 1.185e+03], Class Predicted = 0
X12 = [1.26e+01 2.46e+00 2.20e+00 1.85e+01 9.40e+01 1.62e+00 6.60e-01 6.30e-01
      9.40e-01 7.10e+00 7.30e-01 1.58e+00 6.95e+02], Class Predicted = 2
X13 = [1.386e+01 1.510e+00 2.670e+00 2.500e+01 8.600e+01 2.950e+00 2.860e+00
      2.100e-01 1.870e+00 3.380e+00 1.360e+00 3.160e+00 4.100e+02], Class Predicted = 1
X14 = [1.387e+01 1.900e+00 2.800e+00 1.940e+01 1.070e+02 2.950e+00 2.970e+00
      3.700e-01 1.760e+00 4.500e+00 1.250e+00 3.400e+00 9.150e+02], Class Predicted = 0
X15 = [1.245e+01 3.030e+00 2.640e+00 2.700e+01 9.700e+01 1.900e+00 5.800e-01
      6.300e-01 1.140e+00 7.500e+00 6.700e-01 1.730e+00 8.800e+02], Class Predicted = 2
X16 = [1.388e+01 1.890e+00 2.590e+00 1.500e+01 1.010e+02 3.250e+00 3.560e+00
      1.700e-01 1.700e+00 5.430e+00 8.800e-01 3.560e+00 1.095e+03], Class Predicted = 0
X17 = [1.349e+01 1.660e+00 2.240e+00 2.400e+01 8.700e+01 1.880e+00 1.840e+00
      2.700e-01 1.030e+00 3.740e+00 9.800e-01 2.780e+00 4.720e+02], Class Predicted = 1
X18 = [ 12.43   1.53   2.29   21.5   86.    2.74   3.15   0.39   1.77   3.94
      0.69   2.84 352. ], Class Predicted = 1
X19 = [1.181e+01 2.120e+00 2.740e+00 2.150e+01 1.340e+02 1.600e+00 9.900e-01
      1.400e-01 1.560e+00 2.500e+00 9.500e-01 2.260e+00 6.250e+02], Class Predicted = 2
X20 = [1.358e+01 2.580e+00 2.690e+00 2.450e+01 1.050e+02 1.550e+00 8.400e-01
      3.900e-01 1.540e+00 8.660e+00 7.400e-01 1.800e+00 7.500e+02], Class Predicted = 2
X21 = [1.368e+01 1.830e+00 2.360e+00 1.720e+01 1.040e+02 2.420e+00 2.690e+00
      4.200e-01 1.970e+00 3.840e+00 1.230e+00 2.870e+00 9.900e+02], Class Predicted = 0
X22 = [1.323e+01 3.300e+00 2.280e+00 1.850e+01 9.800e+01 1.800e+00 8.300e-01
      6.100e-01 1.870e+00 1.052e+01 5.600e-01 1.510e+00 6.750e+02], Class Predicted = 2
X23 = [1.43e+01 1.92e+00 2.72e+00 2.00e+01 1.20e+02 2.80e+00 3.14e+00 3.30e-01
      1.97e+00 6.20e+00 1.07e+00 2.65e+00 1.28e+03], Class Predicted = 0
X24 = [1.328e+01 1.640e+00 2.840e+00 1.550e+01 1.100e+02 2.600e+00 2.680e+00
      3.400e-01 1.360e+00 4.600e+00 1.090e+00 2.780e+00 8.800e+02], Class Predicted = 0
X25 = [1.377e+01 1.900e+00 2.680e+00 1.710e+01 1.150e+02 3.000e+00 2.790e+00
      3.900e-01 1.680e+00 6.300e+00 1.130e+00 2.930e+00 1.375e+03], Class Predicted = 0
X26 = [1.367e+01 1.250e+00 1.920e+00 1.800e+01 9.400e+01 2.100e+00 1.790e+00
      3.200e-01 7.300e-01 3.800e+00 1.230e+00 2.460e+00 6.300e+02], Class Predicted = 1
X27 = [1.324e+01 2.590e+00 2.870e+00 2.100e+01 1.180e+02 2.800e+00 2.690e+00
      3.900e-01 1.820e+00 4.320e+00 1.040e+00 2.930e+00 7.350e+02], Class Predicted = 0
X28 = [1.267e+01 9.800e-01 2.240e+00 1.800e+01 9.900e+01 2.200e+00 1.940e+00
      3.000e-01 1.460e+00 2.620e+00 1.230e+00 3.160e+00 4.500e+02], Class Predicted = 1
X29 = [1.356e+01 1.730e+00 2.460e+00 2.050e+01 1.160e+02 2.960e+00 2.780e+00
      2.000e-01 2.450e+00 6.250e+00 9.800e-01 3.030e+00 1.120e+03], Class Predicted = 0
X30 = [1.233e+01 1.100e+00 2.280e+00 1.600e+01 1.010e+02 2.050e+00 1.090e+00
      6.300e-01 4.100e-01 3.270e+00 1.250e+00 1.670e+00 6.800e+02], Class Predicted = 1
X31 = [1.406e+01 2.150e+00 2.610e+00 1.760e+01 1.210e+02 2.600e+00 2.510e+00
      3.100e-01 1.250e+00 5.050e+00 1.060e+00 3.580e+00 1.295e+03], Class Predicted = 0
X32 = [1.251e+01 1.730e+00 1.980e+00 2.050e+01 8.500e+01 2.200e+00 1.920e+00]

```

3.200e-01 1.480e+00 2.940e+00 1.040e+00 3.570e+00 6.720e+02], Class Predicted = 1
 X33 = [1.327e+01 4.280e+00 2.260e+00 2.000e+01 1.200e+02 1.590e+00 6.900e-01
 4.300e-01 1.350e+00 1.020e+01 5.900e-01 1.560e+00 8.350e+02], Class Predicted = 2
 X34 = [1.311e+01 1.900e+00 2.750e+00 2.550e+01 1.160e+02 2.200e+00 1.280e+00
 2.600e-01 1.560e+00 7.100e+00 6.100e-01 1.330e+00 4.250e+02], Class Predicted = 2
 X35 = [12.42 2.55 2.27 22. 90. 1.68 1.84 0.66 1.42 2.7
 0.86 3.3 315.], Class Predicted = 1
 X36 = [1.382e+01 1.750e+00 2.420e+00 1.400e+01 1.110e+02 3.880e+00 3.740e+00
 3.200e-01 1.870e+00 7.050e+00 1.010e+00 3.260e+00 1.190e+03], Class Predicted = 0
 X37 = [1.161e+01 1.350e+00 2.700e+00 2.000e+01 9.400e+01 2.740e+00 2.920e+00
 2.900e-01 2.490e+00 2.650e+00 9.600e-01 3.260e+00 6.800e+02], Class Predicted = 1
 X38 = [1.371e+01 5.650e+00 2.450e+00 2.050e+01 9.500e+01 1.680e+00 6.100e-01
 5.200e-01 1.060e+00 7.700e+00 6.400e-01 1.740e+00 7.400e+02], Class Predicted = 2
 X39 = [1.285e+01 1.600e+00 2.520e+00 1.780e+01 9.500e+01 2.480e+00 2.370e+00
 2.600e-01 1.460e+00 3.930e+00 1.090e+00 3.630e+00 1.015e+03], Class Predicted = 0
 X40 = [1.165e+01 1.670e+00 2.620e+00 2.600e+01 8.800e+01 1.920e+00 1.610e+00
 4.000e-01 1.340e+00 2.600e+00 1.360e+00 3.210e+00 5.620e+02], Class Predicted = 1
 X41 = [1.233e+01 9.900e-01 1.950e+00 1.480e+01 1.360e+02 1.900e+00 1.850e+00
 3.500e-01 2.760e+00 3.400e+00 1.060e+00 2.310e+00 7.500e+02], Class Predicted = 1
 X42 = [12.08 1.83 2.32 18.5 81. 1.6 1.5 0.52 1.64 2.4
 1.08 2.27 480.], Class Predicted = 1
 X43 = [1.336e+01 2.560e+00 2.350e+00 2.000e+01 8.900e+01 1.400e+00 5.000e-01
 3.700e-01 6.400e-01 5.600e+00 7.000e-01 2.470e+00 7.800e+02], Class Predicted = 2
 X44 = [1.281e+01 2.310e+00 2.400e+00 2.400e+01 9.800e+01 1.150e+00 1.090e+00
 2.700e-01 8.300e-01 5.700e+00 6.600e-01 1.360e+00 5.600e+02], Class Predicted = 2
 X45 = [12.77 3.43 1.98 16. 80. 1.63 1.25 0.43 0.83 3.4
 0.7 2.12 372.], Class Predicted = 1
 X46 = [12.42 4.43 2.73 26.5 102. 2.2 2.13 0.43 1.71 2.08
 0.92 3.12 365.], Class Predicted = 1
 X47 = [1.208e+01 2.080e+00 1.700e+00 1.750e+01 9.700e+01 2.230e+00 2.170e+00
 2.600e-01 1.400e+00 3.300e+00 1.270e+00 2.960e+00 7.100e+02], Class Predicted = 1
 X48 = [1.305e+01 5.800e+00 2.130e+00 2.150e+01 8.600e+01 2.620e+00 2.650e+00
 3.000e-01 2.010e+00 2.600e+00 7.300e-01 3.100e+00 3.800e+02], Class Predicted = 1
 X49 = [1.351e+01 1.800e+00 2.650e+00 1.900e+01 1.100e+02 2.350e+00 2.530e+00
 2.900e-01 1.540e+00 4.200e+00 1.100e+00 2.870e+00 1.095e+03], Class Predicted = 0
 X50 = [1.242e+01 1.610e+00 2.190e+00 2.250e+01 1.080e+02 2.000e+00 2.090e+00
 3.400e-01 1.610e+00 2.060e+00 1.060e+00 2.960e+00 3.450e+02], Class Predicted = 1
 X51 = [1.293e+01 2.810e+00 2.700e+00 2.100e+01 9.600e+01 1.540e+00 5.000e-01
 5.300e-01 7.500e-01 4.600e+00 7.700e-01 2.310e+00 6.000e+02], Class Predicted = 2
 X52 = [1.229e+01 1.410e+00 1.980e+00 1.600e+01 8.500e+01 2.550e+00 2.500e+00
 2.900e-01 1.770e+00 2.900e+00 1.230e+00 2.740e+00 4.280e+02], Class Predicted = 1
 X53 = [1.145e+01 2.400e+00 2.420e+00 2.000e+01 9.600e+01 2.900e+00 2.790e+00
 3.200e-01 1.830e+00 3.250e+00 8.000e-01 3.390e+00 6.250e+02], Class Predicted = 1
 X54 = [1.373e+01 4.360e+00 2.260e+00 2.250e+01 8.800e+01 1.280e+00 4.700e-01
 5.200e-01 1.150e+00 6.620e+00 7.800e-01 1.750e+00 5.200e+02], Class Predicted = 2
 X55 = [1.394e+01 1.730e+00 2.270e+00 1.740e+01 1.080e+02 2.880e+00 3.540e+00
 3.200e-01 2.080e+00 8.900e+00 1.120e+00 3.100e+00 1.260e+03], Class Predicted = 0
 X56 = [1.27e+01 3.55e+00 2.36e+00 2.15e+01 1.06e+02 1.70e+00 1.20e+00 1.70e-01
 8.40e-01 5.00e+00 7.80e-01 1.29e+00 6.00e+02], Class Predicted = 2
 X57 = [1.330e+01 1.720e+00 2.140e+00 1.700e+01 9.400e+01 2.400e+00 2.190e+00
 2.700e-01 1.350e+00 3.950e+00 1.020e+00 2.770e+00 1.285e+03], Class Predicted = 0
 X58 = [1.364e+01 3.100e+00 2.560e+00 1.520e+01 1.160e+02 2.700e+00 3.030e+00
 1.700e-01 1.660e+00 5.100e+00 9.600e-01 3.360e+00 8.450e+02], Class Predicted = 0
 X59 = [1.236e+01 3.830e+00 2.380e+00 2.100e+01 8.800e+01 2.300e+00 9.200e-01
 5.000e-01 1.040e+00 7.650e+00 5.600e-01 1.580e+00 5.200e+02], Class Predicted = 2
 X60 = [1.305e+01 1.730e+00 2.040e+00 1.240e+01 9.200e+01 2.720e+00 3.270e+00
 1.700e-01 2.910e+00 7.200e+00 1.120e+00 2.910e+00 1.150e+03], Class Predicted = 0
 X61 = [1.20e+01 3.43e+00 2.00e+00 1.90e+01 8.70e+01 2.00e+00 1.64e+00 3.70e-01
 1.87e+00 1.28e+00 9.30e-01 3.05e+00 5.64e+02], Class Predicted = 1
 X62 = [13.05 3.86 2.32 22.5 85. 1.65 1.59 0.61 1.62 4.8
 0.84 2.01 515.], Class Predicted = 2
 X63 = [1.308e+01 3.900e+00 2.360e+00 2.150e+01 1.130e+02 1.410e+00 1.390e+00
 3.400e-01 1.140e+00 9.400e+00 5.700e-01 1.330e+00 5.500e+02], Class Predicted = 2
 X64 = [1.373e+01 1.500e+00 2.700e+00 2.250e+01 1.010e+02 3.000e+00 3.250e+00
 2.900e-01 2.380e+00 5.700e+00 1.190e+00 2.710e+00 1.285e+03], Class Predicted = 0
 X65 = [1.371e+01 1.860e+00 2.360e+00 1.660e+01 1.010e+02 2.610e+00 2.880e+00
 2.700e-01 1.690e+00 3.800e+00 1.110e+00 4.000e+00 1.035e+03], Class Predicted = 0
 X66 = [1.141e+01 7.400e-01 2.500e+00 2.100e+01 8.800e+01 2.480e+00 2.010e+00
 4.200e-01 1.440e+00 3.080e+00 1.100e+00 2.310e+00 4.340e+02], Class Predicted = 1

```

X67 = [1.32e+01 1.78e+00 2.14e+00 1.12e+01 1.00e+02 2.65e+00 2.76e+00 2.60e-01
       1.28e+00 4.38e+00 1.05e+00 3.40e+00 1.05e+03], Class Predicted = 0
X68 = [1.316e+01 3.570e+00 2.150e+00 2.100e+01 1.020e+02 1.500e+00 5.500e-01
       4.300e-01 1.300e+00 4.000e+00 6.000e-01 1.680e+00 8.300e+02], Class Predicted = 2
X69 = [1.34e+01 4.60e+00 2.86e+00 2.50e+01 1.12e+02 1.98e+00 9.60e-01 2.70e-01
       1.11e+00 8.50e+00 6.70e-01 1.92e+00 6.30e+02], Class Predicted = 2
X70 = [ 12.      1.51     2.42    22.     86.     1.45     1.25     0.5     1.63     3.6
       1.05     2.65   450. ], Class Predicted = 1
X71 = [1.284e+01 2.960e+00 2.610e+00 2.400e+01 1.010e+02 2.320e+00 6.000e-01
       5.300e-01 8.100e-01 4.920e+00 8.900e-01 2.150e+00 5.900e+02], Class Predicted = 2

```

In []:

```
#create a new dataframe
df_new_SVM = DataFrame(dict(x=X3_test[:,0], y=X3_test[:,1], label=y3_pred))
df_new_SVM.head()
```

Out[]:

	x	y	label
0	14.10	2.02	0
1	13.45	3.70	2
2	13.11	1.01	1
3	12.22	1.29	1
4	12.58	1.29	2

4.3.2 Testing Predictions

In []:

```
#model score in test
svm_model.score(X3_test, y3_pred)
```

Out[]:

4.3.3 Metrics and Scoring

In []:

```
#Accuracy Score
accuracy_score(y3_test, y3_pred)
```

Out[]:

```
#ROC Score
roc_auc_score(y3, LogReg.predict_proba(X3), multi_class='ovr')
```

Out[]:

In []:

```
# r squared
correlation_matrix= np.corrcoef(y3_test, y3_pred)
correlation_xy=correlation_matrix[0,1]
r_squared=correlation_xy**2

print(r_squared)
```

0.9586169775196747

In []:

```
#F1 Score
print(f1_score(y3_test, y3_pred, average='macro'))
```

```
print(f1_score(y3_test, y3_pred, average='micro'))
print(f1_score(y3_test, y3_pred, average='weighted'))
```

```
0.9328824813652158
0.9305555555555556
0.9300627726319506
```

In []:

```
#Precision Score
print(precision_score(y3_test, y3_pred, average='macro'))
print(precision_score(y3_test, y3_pred, average='micro'))
print(precision_score(y3_test, y3_pred, average='weighted'))
```

```
0.9256402500504134
0.9305555555555556
0.9332001579619548
```

In []:

```
#Recall Score
print(recall_score(y3_test, y3_pred, average='macro'))
print(recall_score(y3_test, y3_pred, average='micro'))
print(recall_score(y3_test, y3_pred, average='weighted'))
```

```
0.9438405797101449
0.9305555555555556
0.9305555555555556
```

4.3.4 Confusion Matrix

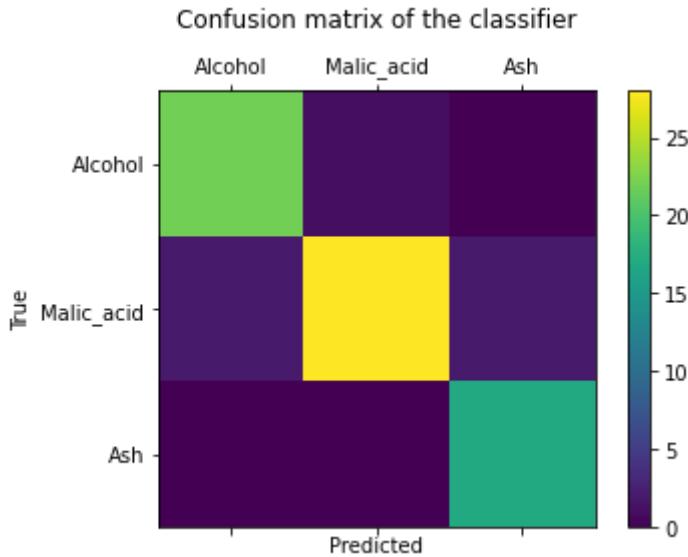
In []:

```
ConMat = confusion_matrix(y3_test, y3_pred)
print(ConMat)
```

```
[[22  1  0]
 [ 2 28  2]
 [ 0  0 17]]
```

In []:

```
#Confusion Matrix
labels = ["Alcohol", "Malic_acid", "Ash", "Alcalinity_of_ash", "Magnesium", "Total_p
fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(ConMat)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()
```



4.3.5 Cross Validation

```
In [ ]: X_shuffle, y_shuffle = shuffle(X3, y3, random_state=7)
```

```
In [ ]: scores = cross_val_score(svm_model, X_shuffle, y_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0. 0.24 0.37 0.34 0.29]
RMSE average: 0.24784239608428948

4.3.6 K-Fold

```
In [ ]: # define the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfold.split(X3):
    print("Train: %s \nTest: %s\n" % (train, test))
```

Train: [0 1 2 3 6 9 10 11 12 13 14 15 16 17 19 20 21 22
 23 25 27 28 29 31 32 34 35 36 38 39 40 41 42 43 46 47
 48 49 50 52 53 57 58 59 62 64 65 67 68 69 70 71 72 73
 74 75 76 77 78 79 81 82 83 84 85 87 88 89 91 95 96 97
 99 100 102 103 105 107 108 109 110 114 115 116 117 118 119 120 122 124
 125 127 128 130 131 132 133 134 135 136 137 138 139 140 142 143 144 145
 147 148 149 150 152 153 154 155 156 157 158 159 162 163 165 166 167 169
 170 171 172 173 175 176 177]
Test: [4 5 7 8 18 24 26 30 33 37 44 45 51 54 55 56 60 61
 63 66 80 86 90 92 93 94 98 101 104 106 111 112 113 121 123 126
 129 141 146 151 160 161 164 168 174]

Train: [0 1 3 4 5 6 7 8 9 11 12 13 14 15 17 18 20 21
 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 41 42
 44 45 46 47 48 49 51 52 53 54 55 56 57 58 60 61 63 65
 66 67 68 70 72 75 76 77 78 79 80 81 82 84 85 86 87 88
 90 91 92 93 94 98 99 100 101 102 103 104 105 106 107 111 112 113
 114 115 117 119 120 121 123 126 127 128 129 130 132 133 136 137 139 140
 141 142 143 146 147 148 149 150 151 152 153 154 157 160 161 164 165 167
 168 169 172 173 174 176 177]
Test: [2 10 16 19 22 27 40 43 50 59 62 64 69 71 73 74 83 89]

```

95 96 97 108 109 110 116 118 122 124 125 131 134 135 138 144 145 155
156 158 159 162 163 166 170 171 175]

Train: [ 2 4 5 7 8 9 10 16 17 18 19 21 22 24 25 26 27 28
29 30 31 32 33 34 36 37 38 39 40 43 44 45 47 50 51 53
54 55 56 58 59 60 61 62 63 64 66 67 69 70 71 72 73 74
77 79 80 81 82 83 86 87 88 89 90 92 93 94 95 96 97 98
99 101 103 104 106 108 109 110 111 112 113 114 115 116 117 118 121 122
123 124 125 126 127 128 129 131 133 134 135 138 139 140 141 142 144 145
146 147 148 149 150 151 155 156 157 158 159 160 161 162 163 164 166 167
168 169 170 171 172 174 175 177]
Test: [ 0 1 3 6 11 12 13 14 15 20 23 35 41 42 46 48 49 52
57 65 68 75 76 78 84 85 91 100 102 105 107 119 120 130 132 136
137 143 152 153 154 165 173 176]

Train: [ 0 1 2 3 4 5 6 7 8 10 11 12 13 14 15 16 18 19
20 22 23 24 26 27 30 33 35 37 40 41 42 43 44 45 46 48
49 50 51 52 54 55 56 57 59 60 61 62 63 64 65 66 68 69
71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 116 118
119 120 121 122 123 124 125 126 129 130 131 132 134 135 136 137 138 141
143 144 145 146 151 152 153 154 155 156 158 159 160 161 162 163 164 165
166 168 170 171 173 174 175 176]
Test: [ 9 17 21 25 28 29 31 32 34 36 38 39 47 53 58 67 70 72
77 79 81 82 87 88 99 103 114 115 117 127 128 133 139 140 142 147
148 149 150 157 167 169 172 177]

```

```
In [ ]: # Output the accuracy
results = cross_val_score(svm_model, X3, y3, cv=kfold)
print('Results from all folds: ', results)

Results from all folds: [0.97777778 0.84444444 0.97727273 0.95454545]

In [ ]: # print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))

Accuracy: 93.851% (5.511%)
```

4.4 Gaussian Naive Bayes

```
In [ ]: # Gaussian Naive Bayes (GNB)
Gauss_NB = GaussianNB()

#fit the model
Gauss_NB.fit(X3_train, y3_train)

Out[ ]: GaussianNB(priors=None, var_smoothing=1e-09)

In [ ]: #model score in training returns the coefficient of determination R^2 where 1=100%
Gauss_NB.score(X3_train, y3_train)

Out[ ]: 1.0
```

4.4.1 Making Predictions

```
In [ ]: #making predictions to assign class labels
y3_pred = Gauss_NB.predict(X3_test)

#showing the inputs and predicted outputs
```

```

for i in range(len(X3_test)):
    print("X{0} = {1}, Class Predicted = {2}".format(i, X3_test[i], y3_pred[i]))

```

```

X0 = [1.41e+01 2.02e+00 2.40e+00 1.88e+01 1.03e+02 2.75e+00 2.92e+00 3.20e-01
      2.38e+00 6.20e+00 1.07e+00 2.75e+00 1.06e+03], Class Predicted = 0
X1 = [1.345e+01 3.700e+00 2.600e+00 2.300e+01 1.110e+02 1.700e+00 9.200e-01
      4.300e-01 1.460e+00 1.068e+01 8.500e-01 1.560e+00 6.950e+02], Class Predicted = 2
X2 = [1.311e+01 1.010e+00 1.700e+00 1.500e+01 7.800e+01 2.980e+00 3.180e+00
      2.600e-01 2.280e+00 5.300e+00 1.120e+00 3.180e+00 5.020e+02], Class Predicted = 1
X3 = [ 12.22   1.29   1.94   19.   92.   2.36   2.04   0.39   2.08   2.7
      0.86   3.02 312. ], Class Predicted = 1
X4 = [1.258e+01 1.290e+00 2.100e+00 2.000e+01 1.030e+02 1.480e+00 5.800e-01
      5.300e-01 1.400e+00 7.600e+00 5.800e-01 1.550e+00 6.400e+02], Class Predicted = 2
X5 = [1.369e+01 3.260e+00 2.540e+00 2.000e+01 1.070e+02 1.830e+00 5.600e-01
      5.000e-01 8.000e-01 5.880e+00 9.600e-01 1.820e+00 6.800e+02], Class Predicted = 2
X6 = [1.378e+01 2.760e+00 2.300e+00 2.200e+01 9.000e+01 1.350e+00 6.800e-01
      4.100e-01 1.030e+00 9.580e+00 7.000e-01 1.680e+00 6.150e+02], Class Predicted = 2
X7 = [1.406e+01 1.630e+00 2.280e+00 1.600e+01 1.260e+02 3.000e+00 3.170e+00
      2.400e-01 2.100e+00 5.650e+00 1.090e+00 3.710e+00 7.800e+02], Class Predicted = 0
X8 = [ 12.53   5.51   2.64   25.   96.   1.79   0.6    0.63   1.1    5.
      0.82   1.69 515. ], Class Predicted = 2
X9 = [1.293e+01 3.800e+00 2.650e+00 1.860e+01 1.020e+02 2.410e+00 2.410e+00
      2.500e-01 1.980e+00 4.500e+00 1.030e+00 3.520e+00 7.700e+02], Class Predicted = 0
X10 = [1.208e+01 1.330e+00 2.300e+00 2.360e+01 7.000e+01 2.200e+00 1.590e+00
      4.200e-01 1.380e+00 1.740e+00 1.070e+00 3.210e+00 6.250e+02], Class Predicted = 1
X11 = [1.316e+01 2.360e+00 2.670e+00 1.860e+01 1.010e+02 2.800e+00 3.240e+00
      3.000e-01 2.810e+00 5.680e+00 1.030e+00 3.170e+00 1.185e+03], Class Predicted = 0
X12 = [1.26e+01 2.46e+00 2.20e+00 1.85e+01 9.40e+01 1.62e+00 6.60e-01 6.30e-01
      9.40e-01 7.10e+00 7.30e-01 1.58e+00 6.95e+02], Class Predicted = 2
X13 = [1.386e+01 1.510e+00 2.670e+00 2.500e+01 8.600e+01 2.950e+00 2.860e+00
      2.100e-01 1.870e+00 3.380e+00 1.360e+00 3.160e+00 4.100e+02], Class Predicted = 1
X14 = [1.387e+01 1.900e+00 2.800e+00 1.940e+01 1.070e+02 2.950e+00 2.970e+00
      3.700e-01 1.760e+00 4.500e+00 1.250e+00 3.400e+00 9.150e+02], Class Predicted = 0
X15 = [1.245e+01 3.030e+00 2.640e+00 2.700e+01 9.700e+01 1.900e+00 5.800e-01
      6.300e-01 1.140e+00 7.500e+00 6.700e-01 1.730e+00 8.800e+02], Class Predicted = 2
X16 = [1.388e+01 1.890e+00 2.590e+00 1.500e+01 1.010e+02 3.250e+00 3.560e+00
      1.700e-01 1.700e+00 5.430e+00 8.800e-01 3.560e+00 1.095e+03], Class Predicted = 0
X17 = [1.349e+01 1.660e+00 2.240e+00 2.400e+01 8.700e+01 1.880e+00 1.840e+00
      2.700e-01 1.030e+00 3.740e+00 9.800e-01 2.780e+00 4.720e+02], Class Predicted = 1
X18 = [ 12.43   1.53   2.29   21.5   86.   2.74   3.15   0.39   1.77   3.94
      0.69   2.84 352. ], Class Predicted = 1
X19 = [1.181e+01 2.120e+00 2.740e+00 2.150e+01 1.340e+02 1.600e+00 9.900e-01
      1.400e-01 1.560e+00 2.500e+00 9.500e-01 2.260e+00 6.250e+02], Class Predicted = 1
X20 = [1.358e+01 2.580e+00 2.690e+00 2.450e+01 1.050e+02 1.550e+00 8.400e-01
      3.900e-01 1.540e+00 8.660e+00 7.400e-01 1.800e+00 7.500e+02], Class Predicted = 2
X21 = [1.368e+01 1.830e+00 2.360e+00 1.720e+01 1.040e+02 2.420e+00 2.690e+00
      4.200e-01 1.970e+00 3.840e+00 1.230e+00 2.870e+00 9.900e+02], Class Predicted = 0
X22 = [1.323e+01 3.300e+00 2.280e+00 1.850e+01 9.800e+01 1.800e+00 8.300e-01
      6.100e-01 1.870e+00 1.052e+01 5.600e-01 1.510e+00 6.750e+02], Class Predicted = 2
X23 = [1.43e+01 1.92e+00 2.72e+00 2.00e+01 1.20e+02 2.80e+00 3.14e+00 3.30e-01
      1.97e+00 6.20e+00 1.07e+00 2.65e+00 1.28e+03], Class Predicted = 0
X24 = [1.328e+01 1.640e+00 2.840e+00 1.550e+01 1.100e+02 2.600e+00 2.680e+00
      3.400e-01 1.360e+00 4.600e+00 1.090e+00 2.780e+00 8.800e+02], Class Predicted = 0
X25 = [1.377e+01 1.900e+00 2.680e+00 1.710e+01 1.150e+02 3.000e+00 2.790e+00
      3.900e-01 1.680e+00 6.300e+00 1.130e+00 2.930e+00 1.375e+03], Class Predicted = 0
X26 = [1.367e+01 1.250e+00 1.920e+00 1.800e+01 9.400e+01 2.100e+00 1.790e+00
      3.200e-01 7.300e-01 3.800e+00 1.230e+00 2.460e+00 6.300e+02], Class Predicted = 1
X27 = [1.324e+01 2.590e+00 2.870e+00 2.100e+01 1.180e+02 2.800e+00 2.690e+00
      3.900e-01 1.820e+00 4.320e+00 1.040e+00 2.930e+00 7.350e+02], Class Predicted = 0
X28 = [1.267e+01 9.800e-01 2.240e+00 1.800e+01 9.900e+01 2.200e+00 1.940e+00
      3.000e-01 1.460e+00 2.620e+00 1.230e+00 3.160e+00 4.500e+02], Class Predicted = 1
X29 = [1.356e+01 1.730e+00 2.460e+00 2.050e+01 1.160e+02 2.960e+00 2.780e+00
      2.000e-01 2.450e+00 6.250e+00 9.800e-01 3.030e+00 1.120e+03], Class Predicted = 0
X30 = [1.233e+01 1.100e+00 2.280e+00 1.600e+01 1.010e+02 2.050e+00 1.090e+00
      6.300e-01 4.100e-01 3.270e+00 1.250e+00 1.670e+00 6.800e+02], Class Predicted = 1
X31 = [1.406e+01 2.150e+00 2.610e+00 1.760e+01 1.210e+02 2.600e+00 2.510e+00
      3.100e-01 1.250e+00 5.050e+00 1.060e+00 3.580e+00 1.295e+03], Class Predicted = 0
X32 = [1.251e+01 1.730e+00 1.980e+00 2.050e+01 8.500e+01 2.200e+00 1.920e+00
      3.200e-01 1.480e+00 2.940e+00 1.040e+00 3.570e+00 6.720e+02], Class Predicted = 1

```

X33 = [1.327e+01 4.280e+00 2.260e+00 2.000e+01 1.200e+02 1.590e+00 6.900e-01
 4.300e-01 1.350e+00 1.020e+01 5.900e-01 1.560e+00 8.350e+02], Class Predicted = 2
 X34 = [1.311e+01 1.900e+00 2.750e+00 2.550e+01 1.160e+02 2.200e+00 1.280e+00
 2.600e-01 1.560e+00 7.100e+00 6.100e-01 1.330e+00 4.250e+02], Class Predicted = 2
 X35 = [12.42 2.55 2.27 22. 90. 1.68 1.84 0.66 1.42 2.7
 0.86 3.3 315.], Class Predicted = 1
 X36 = [1.382e+01 1.750e+00 2.420e+00 1.400e+01 1.110e+02 3.880e+00 3.740e+00
 3.200e-01 1.870e+00 7.050e+00 1.010e+00 3.260e+00 1.190e+03], Class Predicted = 0
 X37 = [1.161e+01 1.350e+00 2.700e+00 2.000e+01 9.400e+01 2.740e+00 2.920e+00
 2.900e-01 2.490e+00 2.650e+00 9.600e-01 3.260e+00 6.800e+02], Class Predicted = 1
 X38 = [1.371e+01 5.650e+00 2.450e+00 2.050e+01 9.500e+01 1.680e+00 6.100e-01
 5.200e-01 1.060e+00 7.700e+00 6.400e-01 1.740e+00 7.400e+02], Class Predicted = 2
 X39 = [1.285e+01 1.600e+00 2.520e+00 1.780e+01 9.500e+01 2.480e+00 2.370e+00
 2.600e-01 1.460e+00 3.930e+00 1.090e+00 3.630e+00 1.015e+03], Class Predicted = 0
 X40 = [1.165e+01 1.670e+00 2.620e+00 2.600e+01 8.800e+01 1.920e+00 1.610e+00
 4.000e-01 1.340e+00 2.600e+00 1.360e+00 3.210e+00 5.620e+02], Class Predicted = 1
 X41 = [1.233e+01 9.900e-01 1.950e+00 1.480e+01 1.360e+02 1.900e+00 1.850e+00
 3.500e-01 2.760e+00 3.400e+00 1.060e+00 2.310e+00 7.500e+02], Class Predicted = 1
 X42 = [12.08 1.83 2.32 18.5 81. 1.6 1.5 0.52 1.64 2.4
 1.08 2.27 480.], Class Predicted = 1
 X43 = [1.336e+01 2.560e+00 2.350e+00 2.000e+01 8.900e+01 1.400e+00 5.000e-01
 3.700e-01 6.400e-01 5.600e+00 7.000e-01 2.470e+00 7.800e+02], Class Predicted = 2
 X44 = [1.281e+01 2.310e+00 2.400e+00 2.400e+01 9.800e+01 1.150e+00 1.090e+00
 2.700e-01 8.300e-01 5.700e+00 6.600e-01 1.360e+00 5.600e+02], Class Predicted = 2
 X45 = [12.77 3.43 1.98 16. 80. 1.63 1.25 0.43 0.83 3.4
 0.7 2.12 372.], Class Predicted = 1
 X46 = [12.42 4.43 2.73 26.5 102. 2.2 2.13 0.43 1.71 2.08
 0.92 3.12 365.], Class Predicted = 1
 X47 = [1.208e+01 2.080e+00 1.700e+00 1.750e+01 9.700e+01 2.230e+00 2.170e+00
 2.600e-01 1.400e+00 3.300e+00 1.270e+00 2.960e+00 7.100e+02], Class Predicted = 1
 X48 = [1.305e+01 5.800e+00 2.130e+00 2.150e+01 8.600e+01 2.620e+00 2.650e+00
 3.000e-01 2.010e+00 2.600e+00 7.300e-01 3.100e+00 3.800e+02], Class Predicted = 1
 X49 = [1.351e+01 1.800e+00 2.650e+00 1.900e+01 1.100e+02 2.350e+00 2.530e+00
 2.900e-01 1.540e+00 4.200e+00 1.100e+00 2.870e+00 1.095e+03], Class Predicted = 0
 X50 = [1.242e+01 1.610e+00 2.190e+00 2.250e+01 1.080e+02 2.000e+00 2.090e+00
 3.400e-01 1.610e+00 2.060e+00 1.060e+00 2.960e+00 3.450e+02], Class Predicted = 1
 X51 = [1.293e+01 2.810e+00 2.700e+00 2.100e+01 9.600e+01 1.540e+00 5.000e-01
 5.300e-01 7.500e-01 4.600e+00 7.700e-01 2.310e+00 6.000e+02], Class Predicted = 2
 X52 = [1.229e+01 1.410e+00 1.980e+00 1.600e+01 8.500e+01 2.550e+00 2.500e+00
 2.900e-01 1.770e+00 2.900e+00 1.230e+00 2.740e+00 4.280e+02], Class Predicted = 1
 X53 = [1.145e+01 2.400e+00 2.420e+00 2.000e+01 9.600e+01 2.900e+00 2.790e+00
 3.200e-01 1.830e+00 3.250e+00 8.000e-01 3.390e+00 6.250e+02], Class Predicted = 1
 X54 = [1.373e+01 4.360e+00 2.260e+00 2.250e+01 8.800e+01 1.280e+00 4.700e-01
 5.200e-01 1.150e+00 6.620e+00 7.800e-01 1.750e+00 5.200e+02], Class Predicted = 2
 X55 = [1.394e+01 1.730e+00 2.270e+00 1.740e+01 1.080e+02 2.880e+00 3.540e+00
 3.200e-01 2.080e+00 8.900e+00 1.120e+00 3.100e+00 1.260e+03], Class Predicted = 0
 X56 = [1.27e+01 3.55e+00 2.36e+00 2.15e+01 1.06e+02 1.70e+00 1.20e+00 1.70e-01
 8.40e-01 5.00e+00 7.80e-01 1.29e+00 6.00e+02], Class Predicted = 2
 X57 = [1.330e+01 1.720e+00 2.140e+00 1.700e+01 9.400e+01 2.400e+00 2.190e+00
 2.700e-01 1.350e+00 3.950e+00 1.020e+00 2.770e+00 1.285e+03], Class Predicted = 0
 X58 = [1.364e+01 3.100e+00 2.560e+00 1.520e+01 1.160e+02 2.700e+00 3.030e+00
 1.700e-01 1.660e+00 5.100e+00 9.600e-01 3.360e+00 8.450e+02], Class Predicted = 0
 X59 = [1.236e+01 3.830e+00 2.380e+00 2.100e+01 8.800e+01 2.300e+00 9.200e-01
 5.000e-01 1.040e+00 7.650e+00 5.600e-01 1.580e+00 5.200e+02], Class Predicted = 2
 X60 = [1.305e+01 1.730e+00 2.040e+00 1.240e+01 9.200e+01 2.720e+00 3.270e+00
 1.700e-01 2.910e+00 7.200e+00 1.120e+00 2.910e+00 1.150e+03], Class Predicted = 0
 X61 = [1.20e+01 3.43e+00 2.00e+00 1.90e+01 8.70e+01 2.00e+00 1.64e+00 3.70e-01
 1.87e+00 1.28e+00 9.30e-01 3.05e+00 5.64e+02], Class Predicted = 1
 X62 = [13.05 3.86 2.32 22.5 85. 1.65 1.59 0.61 1.62 4.8
 0.84 2.01 515.], Class Predicted = 2
 X63 = [1.308e+01 3.900e+00 2.360e+00 2.150e+01 1.130e+02 1.410e+00 1.390e+00
 3.400e-01 1.140e+00 9.400e+00 5.700e-01 1.330e+00 5.500e+02], Class Predicted = 2
 X64 = [1.373e+01 1.500e+00 2.700e+00 2.250e+01 1.010e+02 3.000e+00 3.250e+00
 2.900e-01 2.380e+00 5.700e+00 1.190e+00 2.710e+00 1.285e+03], Class Predicted = 0
 X65 = [1.371e+01 1.860e+00 2.360e+00 1.660e+01 1.010e+02 2.610e+00 2.880e+00
 2.700e-01 1.690e+00 3.800e+00 1.110e+00 4.000e+00 1.035e+03], Class Predicted = 0
 X66 = [1.141e+01 7.400e-01 2.500e+00 2.100e+01 8.800e+01 2.480e+00 2.010e+00
 4.200e-01 1.440e+00 3.080e+00 1.100e+00 2.310e+00 4.340e+02], Class Predicted = 1
 X67 = [1.32e+01 1.78e+00 2.14e+00 1.12e+01 1.00e+02 2.65e+00 2.76e+00 2.60e-01

```

1.28e+00 4.38e+00 1.05e+00 3.40e+00 1.05e+03], Class Predicted = 0
X68 = [1.316e+01 3.570e+00 2.150e+00 2.100e+01 1.020e+02 1.500e+00 5.500e-01
4.300e-01 1.300e+00 4.000e+00 6.000e-01 1.680e+00 8.300e+02], Class Predicted = 2
X69 = [1.34e+01 4.60e+00 2.86e+00 2.50e+01 1.12e+02 1.98e+00 9.60e-01 2.70e-01
1.11e+00 8.50e+00 6.70e-01 1.92e+00 6.30e+02], Class Predicted = 2
X70 = [ 12.      1.51     2.42    22.      86.      1.45     1.25     0.5      1.63     3.6
1.05     2.65    450. ], Class Predicted = 1
X71 = [1.284e+01 2.960e+00 2.610e+00 2.400e+01 1.010e+02 2.320e+00 6.000e-01
5.300e-01 8.100e-01 4.920e+00 8.900e-01 2.150e+00 5.900e+02], Class Predicted = 2

```

In []: `Gauss_NB.score(X3_test, y3_test)`

Out[]: 0.9861111111111112

In []: `# r squared`
`correlation_matrix= np.corrcoef(y3_test, y3_pred)`
`correlation_xy=correlation_matrix[0,1]`
`r_squared=correlation_xy**2`
`print(r_squared)`

0.9785628951501398

In []: `#Create a Dataframe`
`df_new_GaussNB = DataFrame(dict(x=X3_test[:,0], y=X3_test[:,1], label=y3_pred))`
`df_new_GaussNB.head()`

Out[]:

	x	y	label
0	13.74	1.67	0
1	12.25	4.72	2
2	12.37	1.21	1
3	14.38	3.59	0
4	12.82	3.37	2

4.4.2 Testing Predictions

In []: `#model score in test`
`Gauss_NB.score(X3_test, y3_pred)`

Out[]: 1.0

4.4.3 Metrics and Scoring

In []: `#Accuracy Score`
`accuracy_score(y3_test, y3_pred)`

Out[]: 0.9583333333333334

In []: `#ROC Score`
`roc_auc_score(y3, Gauss_NB.predict_proba(X3), multi_class='ovr')`

Out[]: 0.9991591382918258

```
In [ ]:
```

```
#F1 Score
print(f1_score(y3_test, y3_pred, average='macro'))
print(f1_score(y3_test, y3_pred, average='micro'))
print(f1_score(y3_test, y3_pred, average='weighted'))
```

```
0.958201058201058
0.958333333333334
0.9586199294532628
```

```
In [ ]:
```

```
#Precision Score
print(precision_score(y3_test, y3_pred, average='macro'))
print(precision_score(y3_test, y3_pred, average='micro'))
print(precision_score(y3_test, y3_pred, average='weighted'))
```

```
0.9541595925297114
0.958333333333334
0.9608092812676854
```

```
In [ ]:
```

```
#Recall Score
print(recall_score(y3_test, y3_pred, average='macro'))
print(recall_score(y3_test, y3_pred, average='micro'))
print(recall_score(y3_test, y3_pred, average='weighted'))
```

```
0.9646739130434782
0.958333333333334
0.958333333333334
```

4.4.4 Confusion Matrix

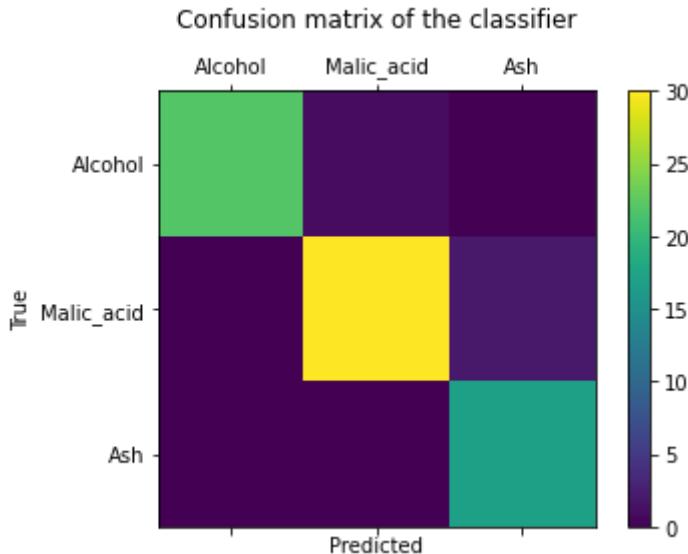
```
In [ ]:
```

```
ConMat = confusion_matrix(y3_test, y3_pred)
print(ConMat)
```

```
[[22  1  0]
 [ 0 30  2]
 [ 0  0 17]]
```

```
In [ ]:
```

```
#Confusion Matrix
labels = ["Alcohol", "Malic_acid", "Ash", "Alcalinity_of_ash", "Magnesium", "Total_p
fig = plt.figure()
ax = fig.add_subplot(111)
cax = ax.matshow(ConMat)
plt.title('Confusion matrix of the classifier\n')
fig.colorbar(cax)
ax.set_xticklabels([''] + labels)
ax.set_yticklabels([''] + labels)
plt.xlabel('Predicted')
plt.ylabel('True')
plt.show()
```



4.4.5 Cross Validation

```
In [ ]: #Shuffling Data
X_shuffle, y_shuffle = shuffle(X3, y3, random_state=7)
```

```
In [ ]: #RMSE
scores = cross_val_score(Gauss_NB, X_shuffle, y_shuffle,
                         scoring="neg_mean_squared_error",
                         cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0. 0. 0.17 0.17 0.24]
RMSE average: 0.11494864789584973

4.4.6 K-Fold

```
In [ ]: # define the folds
kfolds = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfolds.split(X3):
    print("Train: %s \nTest: %s\n" % (train, test))
```

Train: [0 1 2 3 6 9 10 11 12 13 14 15 16 17 19 20 21 22
23 25 27 28 29 31 32 34 35 36 38 39 40 41 42 43 46 47
48 49 50 52 53 57 58 59 62 64 65 67 68 69 70 71 72 73
74 75 76 77 78 79 81 82 83 84 85 87 88 89 91 95 96 97
99 100 102 103 105 107 108 109 110 114 115 116 117 118 119 120 122 124
125 127 128 130 131 132 133 134 135 136 137 138 139 140 142 143 144 145
147 148 149 150 152 153 154 155 156 157 158 159 162 163 165 166 167 169
170 171 172 173 175 176 177]
Test: [4 5 7 8 18 24 26 30 33 37 44 45 51 54 55 56 60 61
63 66 80 86 90 92 93 94 98 101 104 106 111 112 113 121 123 126
129 141 146 151 160 161 164 168 174]

Train: [0 1 3 4 5 6 7 8 9 11 12 13 14 15 17 18 20 21
23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 41 42
44 45 46 47 48 49 51 52 53 54 55 56 57 58 60 61 63 65
66 67 68 70 72 75 76 77 78 79 80 81 82 84 85 86 87 88
90 91 92 93 94 98 99 100 101 102 103 104 105 106 107 111 112 113
114 115 117 119 120 121 123 126 127 128 129 130 132 133 136 137 139 140
141 142 143 146 147 148 149 150 151 152 153 154 157 160 161 164 165 167

```

168 169 172 173 174 176 177]
Test: [ 2 10 16 19 22 27 40 43 50 59 62 64 69 71 73 74 83 89
      95 96 97 108 109 110 116 118 122 124 125 131 134 135 138 144 145 155
      156 158 159 162 163 166 170 171 175]

Train: [ 2 4 5 7 8 9 10 16 17 18 19 21 22 24 25 26 27 28
      29 30 31 32 33 34 36 37 38 39 40 43 44 45 47 50 51 53
      54 55 56 58 59 60 61 62 63 64 66 67 69 70 71 72 73 74
      77 79 80 81 82 83 86 87 88 89 90 92 93 94 95 96 97 98
      99 101 103 104 106 108 109 110 111 112 113 114 115 116 117 118 121 122
      123 124 125 126 127 128 129 131 133 134 135 138 139 140 141 142 144 145
      146 147 148 149 150 151 155 156 157 158 159 160 161 162 163 164 166 167
      168 169 170 171 172 174 175 177]
Test: [ 0 1 3 6 11 12 13 14 15 20 23 35 41 42 46 48 49 52
      57 65 68 75 76 78 84 85 91 100 102 105 107 119 120 130 132 136
      137 143 152 153 154 165 173 176]

Train: [ 0 1 2 3 4 5 6 7 8 10 11 12 13 14 15 16 18 19
      20 22 23 24 26 27 30 33 35 37 40 41 42 43 44 45 46 48
      49 50 51 52 54 55 56 57 59 60 61 62 63 64 65 66 68 69
      71 73 74 75 76 78 80 83 84 85 86 89 90 91 92 93 94 95
      96 97 98 100 101 102 104 105 106 107 108 109 110 111 112 113 116 118
      119 120 121 122 123 124 125 126 129 130 131 132 134 135 136 137 138 141
      143 144 145 146 151 152 153 154 155 156 158 159 160 161 162 163 164 165
      166 168 170 171 173 174 175 176]
Test: [ 9 17 21 25 28 29 31 32 34 36 38 39 47 53 58 67 70 72
      77 79 81 82 87 88 99 103 114 115 117 127 128 133 139 140 142 147
      148 149 150 157 167 169 172 177]

```

In []:

```
# Output the accuracy
results = cross_val_score(Gauss_NB, X3, y3, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.93333333 0.91111111 1. 0.95454545]

In []:

```
# print the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 94.975% (3.283%)

4.5 Random Forests

In []:

```
#Random Forest
RandFor = RandomForestClassifier(random_state=1, n_estimators=100)
#fit the model
RandFor.fit(X3_train, y3_train)
```

Out[]:

```
RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                      criterion='gini', max_depth=None, max_features='auto',
                      max_leaf_nodes=None, max_samples=None,
                      min_impurity_decrease=0.0, min_impurity_split=None,
                      min_samples_leaf=1, min_samples_split=2,
                      min_weight_fraction_leaf=0.0, n_estimators=100,
                      n_jobs=None, oob_score=False, random_state=1, verbose=0,
                      warm_start=False)
```

4.5.1 Making Predictions

In []:

```
#making predictions (assigning class labels)
y3_pred = RandFor.predict(X3_test)

#showing the inputs and predicted outputs
```

```

for i in range(len(X3_test)):
    print("X{0} = {1}, Class Predicted = {2}".format(i, X3_test[i], y3_pred[i]))

```

```

X0 = [1.41e+01 2.02e+00 2.40e+00 1.88e+01 1.03e+02 2.75e+00 2.92e+00 3.20e-01
      2.38e+00 6.20e+00 1.07e+00 2.75e+00 1.06e+03], Class Predicted = 0
X1 = [1.345e+01 3.700e+00 2.600e+00 2.300e+01 1.110e+02 1.700e+00 9.200e-01
      4.300e-01 1.460e+00 1.068e+01 8.500e-01 1.560e+00 6.950e+02], Class Predicted = 2
X2 = [1.311e+01 1.010e+00 1.700e+00 1.500e+01 7.800e+01 2.980e+00 3.180e+00
      2.600e-01 2.280e+00 5.300e+00 1.120e+00 3.180e+00 5.020e+02], Class Predicted = 0
X3 = [ 12.22   1.29   1.94   19.   92.   2.36   2.04   0.39   2.08   2.7
      0.86   3.02  312. ], Class Predicted = 1
X4 = [1.258e+01 1.290e+00 2.100e+00 2.000e+01 1.030e+02 1.480e+00 5.800e-01
      5.300e-01 1.400e+00 7.600e+00 5.800e-01 1.550e+00 6.400e+02], Class Predicted = 2
X5 = [1.369e+01 3.260e+00 2.540e+00 2.000e+01 1.070e+02 1.830e+00 5.600e-01
      5.000e-01 8.000e-01 5.880e+00 9.600e-01 1.820e+00 6.800e+02], Class Predicted = 2
X6 = [1.378e+01 2.760e+00 2.300e+00 2.200e+01 9.000e+01 1.350e+00 6.800e-01
      4.100e-01 1.030e+00 9.580e+00 7.000e-01 1.680e+00 6.150e+02], Class Predicted = 2
X7 = [1.406e+01 1.630e+00 2.280e+00 1.600e+01 1.260e+02 3.000e+00 3.170e+00
      2.400e-01 2.100e+00 5.650e+00 1.090e+00 3.710e+00 7.800e+02], Class Predicted = 0
X8 = [ 12.53   5.51   2.64   25.   96.   1.79   0.6    0.63   1.1    5.
      0.82   1.69  515. ], Class Predicted = 2
X9 = [1.293e+01 3.800e+00 2.650e+00 1.860e+01 1.020e+02 2.410e+00 2.410e+00
      2.500e-01 1.980e+00 4.500e+00 1.030e+00 3.520e+00 7.700e+02], Class Predicted = 0
X10 = [1.208e+01 1.330e+00 2.300e+00 2.360e+01 7.000e+01 2.200e+00 1.590e+00
      4.200e-01 1.380e+00 1.740e+00 1.070e+00 3.210e+00 6.250e+02], Class Predicted = 1
X11 = [1.316e+01 2.360e+00 2.670e+00 1.860e+01 1.010e+02 2.800e+00 3.240e+00
      3.000e-01 2.810e+00 5.680e+00 1.030e+00 3.170e+00 1.185e+03], Class Predicted = 0
X12 = [1.26e+01 2.46e+00 2.20e+00 1.85e+01 9.40e+01 1.62e+00 6.60e-01 6.30e-01
      9.40e-01 7.10e+00 7.30e-01 1.58e+00 6.95e+02], Class Predicted = 2
X13 = [1.386e+01 1.510e+00 2.670e+00 2.500e+01 8.600e+01 2.950e+00 2.860e+00
      2.100e-01 1.870e+00 3.380e+00 1.360e+00 3.160e+00 4.100e+02], Class Predicted = 1
X14 = [1.387e+01 1.900e+00 2.800e+00 1.940e+01 1.070e+02 2.950e+00 2.970e+00
      3.700e-01 1.760e+00 4.500e+00 1.250e+00 3.400e+00 9.150e+02], Class Predicted = 0
X15 = [1.245e+01 3.030e+00 2.640e+00 2.700e+01 9.700e+01 1.900e+00 5.800e-01
      6.300e-01 1.140e+00 7.500e+00 6.700e-01 1.730e+00 8.800e+02], Class Predicted = 2
X16 = [1.388e+01 1.890e+00 2.590e+00 1.500e+01 1.010e+02 3.250e+00 3.560e+00
      1.700e-01 1.700e+00 5.430e+00 8.800e-01 3.560e+00 1.095e+03], Class Predicted = 0
X17 = [1.349e+01 1.660e+00 2.240e+00 2.400e+01 8.700e+01 1.880e+00 1.840e+00
      2.700e-01 1.030e+00 3.740e+00 9.800e-01 2.780e+00 4.720e+02], Class Predicted = 1
X18 = [ 12.43   1.53   2.29   21.5   86.   2.74   3.15   0.39   1.77   3.94
      0.69   2.84  352. ], Class Predicted = 1
X19 = [1.181e+01 2.120e+00 2.740e+00 2.150e+01 1.340e+02 1.600e+00 9.900e-01
      1.400e-01 1.560e+00 2.500e+00 9.500e-01 2.260e+00 6.250e+02], Class Predicted = 1
X20 = [1.358e+01 2.580e+00 2.690e+00 2.450e+01 1.050e+02 1.550e+00 8.400e-01
      3.900e-01 1.540e+00 8.660e+00 7.400e-01 1.800e+00 7.500e+02], Class Predicted = 2
X21 = [1.368e+01 1.830e+00 2.360e+00 1.720e+01 1.040e+02 2.420e+00 2.690e+00
      4.200e-01 1.970e+00 3.840e+00 1.230e+00 2.870e+00 9.900e+02], Class Predicted = 0
X22 = [1.323e+01 3.300e+00 2.280e+00 1.850e+01 9.800e+01 1.800e+00 8.300e-01
      6.100e-01 1.870e+00 1.052e+01 5.600e-01 1.510e+00 6.750e+02], Class Predicted = 2
X23 = [1.43e+01 1.92e+00 2.72e+00 2.00e+01 1.20e+02 2.80e+00 3.14e+00 3.30e-01
      1.97e+00 6.20e+00 1.07e+00 2.65e+00 1.28e+03], Class Predicted = 0
X24 = [1.328e+01 1.640e+00 2.840e+00 1.550e+01 1.100e+02 2.600e+00 2.680e+00
      3.400e-01 1.360e+00 4.600e+00 1.090e+00 2.780e+00 8.800e+02], Class Predicted = 0
X25 = [1.377e+01 1.900e+00 2.680e+00 1.710e+01 1.150e+02 3.000e+00 2.790e+00
      3.900e-01 1.680e+00 6.300e+00 1.130e+00 2.930e+00 1.375e+03], Class Predicted = 0
X26 = [1.367e+01 1.250e+00 1.920e+00 1.800e+01 9.400e+01 2.100e+00 1.790e+00
      3.200e-01 7.300e-01 3.800e+00 1.230e+00 2.460e+00 6.300e+02], Class Predicted = 1
X27 = [1.324e+01 2.590e+00 2.870e+00 2.100e+01 1.180e+02 2.800e+00 2.690e+00
      3.900e-01 1.820e+00 4.320e+00 1.040e+00 2.930e+00 7.350e+02], Class Predicted = 0
X28 = [1.267e+01 9.800e-01 2.240e+00 1.800e+01 9.900e+01 2.200e+00 1.940e+00
      3.000e-01 1.460e+00 2.620e+00 1.230e+00 3.160e+00 4.500e+02], Class Predicted = 1
X29 = [1.356e+01 1.730e+00 2.460e+00 2.050e+01 1.160e+02 2.960e+00 2.780e+00
      2.000e-01 2.450e+00 6.250e+00 9.800e-01 3.030e+00 1.120e+03], Class Predicted = 0
X30 = [1.233e+01 1.100e+00 2.280e+00 1.600e+01 1.010e+02 2.050e+00 1.090e+00
      6.300e-01 4.100e-01 3.270e+00 1.250e+00 1.670e+00 6.800e+02], Class Predicted = 1
X31 = [1.406e+01 2.150e+00 2.610e+00 1.760e+01 1.210e+02 2.600e+00 2.510e+00
      3.100e-01 1.250e+00 5.050e+00 1.060e+00 3.580e+00 1.295e+03], Class Predicted = 0
X32 = [1.251e+01 1.730e+00 1.980e+00 2.050e+01 8.500e+01 2.200e+00 1.920e+00
      3.200e-01 1.480e+00 2.940e+00 1.040e+00 3.570e+00 6.720e+02], Class Predicted = 1

```

X33 = [1.327e+01 4.280e+00 2.260e+00 2.000e+01 1.200e+02 1.590e+00 6.900e-01
 4.300e-01 1.350e+00 1.020e+01 5.900e-01 1.560e+00 8.350e+02], Class Predicted = 2
 X34 = [1.311e+01 1.900e+00 2.750e+00 2.550e+01 1.160e+02 2.200e+00 1.280e+00
 2.600e-01 1.560e+00 7.100e+00 6.100e-01 1.330e+00 4.250e+02], Class Predicted = 2
 X35 = [12.42 2.55 2.27 22. 90. 1.68 1.84 0.66 1.42 2.7
 0.86 3.3 315.], Class Predicted = 1
 X36 = [1.382e+01 1.750e+00 2.420e+00 1.400e+01 1.110e+02 3.880e+00 3.740e+00
 3.200e-01 1.870e+00 7.050e+00 1.010e+00 3.260e+00 1.190e+03], Class Predicted = 0
 X37 = [1.161e+01 1.350e+00 2.700e+00 2.000e+01 9.400e+01 2.740e+00 2.920e+00
 2.900e-01 2.490e+00 2.650e+00 9.600e-01 3.260e+00 6.800e+02], Class Predicted = 1
 X38 = [1.371e+01 5.650e+00 2.450e+00 2.050e+01 9.500e+01 1.680e+00 6.100e-01
 5.200e-01 1.060e+00 7.700e+00 6.400e-01 1.740e+00 7.400e+02], Class Predicted = 2
 X39 = [1.285e+01 1.600e+00 2.520e+00 1.780e+01 9.500e+01 2.480e+00 2.370e+00
 2.600e-01 1.460e+00 3.930e+00 1.090e+00 3.630e+00 1.015e+03], Class Predicted = 0
 X40 = [1.165e+01 1.670e+00 2.620e+00 2.600e+01 8.800e+01 1.920e+00 1.610e+00
 4.000e-01 1.340e+00 2.600e+00 1.360e+00 3.210e+00 5.620e+02], Class Predicted = 1
 X41 = [1.233e+01 9.900e-01 1.950e+00 1.480e+01 1.360e+02 1.900e+00 1.850e+00
 3.500e-01 2.760e+00 3.400e+00 1.060e+00 2.310e+00 7.500e+02], Class Predicted = 1
 X42 = [12.08 1.83 2.32 18.5 81. 1.6 1.5 0.52 1.64 2.4
 1.08 2.27 480.], Class Predicted = 1
 X43 = [1.336e+01 2.560e+00 2.350e+00 2.000e+01 8.900e+01 1.400e+00 5.000e-01
 3.700e-01 6.400e-01 5.600e+00 7.000e-01 2.470e+00 7.800e+02], Class Predicted = 2
 X44 = [1.281e+01 2.310e+00 2.400e+00 2.400e+01 9.800e+01 1.150e+00 1.090e+00
 2.700e-01 8.300e-01 5.700e+00 6.600e-01 1.360e+00 5.600e+02], Class Predicted = 2
 X45 = [12.77 3.43 1.98 16. 80. 1.63 1.25 0.43 0.83 3.4
 0.7 2.12 372.], Class Predicted = 2
 X46 = [12.42 4.43 2.73 26.5 102. 2.2 2.13 0.43 1.71 2.08
 0.92 3.12 365.], Class Predicted = 1
 X47 = [1.208e+01 2.080e+00 1.700e+00 1.750e+01 9.700e+01 2.230e+00 2.170e+00
 2.600e-01 1.400e+00 3.300e+00 1.270e+00 2.960e+00 7.100e+02], Class Predicted = 1
 X48 = [1.305e+01 5.800e+00 2.130e+00 2.150e+01 8.600e+01 2.620e+00 2.650e+00
 3.000e-01 2.010e+00 2.600e+00 7.300e-01 3.100e+00 3.800e+02], Class Predicted = 1
 X49 = [1.351e+01 1.800e+00 2.650e+00 1.900e+01 1.100e+02 2.350e+00 2.530e+00
 2.900e-01 1.540e+00 4.200e+00 1.100e+00 2.870e+00 1.095e+03], Class Predicted = 0
 X50 = [1.242e+01 1.610e+00 2.190e+00 2.250e+01 1.080e+02 2.000e+00 2.090e+00
 3.400e-01 1.610e+00 2.060e+00 1.060e+00 2.960e+00 3.450e+02], Class Predicted = 1
 X51 = [1.293e+01 2.810e+00 2.700e+00 2.100e+01 9.600e+01 1.540e+00 5.000e-01
 5.300e-01 7.500e-01 4.600e+00 7.700e-01 2.310e+00 6.000e+02], Class Predicted = 2
 X52 = [1.229e+01 1.410e+00 1.980e+00 1.600e+01 8.500e+01 2.550e+00 2.500e+00
 2.900e-01 1.770e+00 2.900e+00 1.230e+00 2.740e+00 4.280e+02], Class Predicted = 1
 X53 = [1.145e+01 2.400e+00 2.420e+00 2.000e+01 9.600e+01 2.900e+00 2.790e+00
 3.200e-01 1.830e+00 3.250e+00 8.000e-01 3.390e+00 6.250e+02], Class Predicted = 1
 X54 = [1.373e+01 4.360e+00 2.260e+00 2.250e+01 8.800e+01 1.280e+00 4.700e-01
 5.200e-01 1.150e+00 6.620e+00 7.800e-01 1.750e+00 5.200e+02], Class Predicted = 2
 X55 = [1.394e+01 1.730e+00 2.270e+00 1.740e+01 1.080e+02 2.880e+00 3.540e+00
 3.200e-01 2.080e+00 8.900e+00 1.120e+00 3.100e+00 1.260e+03], Class Predicted = 0
 X56 = [1.27e+01 3.55e+00 2.36e+00 2.15e+01 1.06e+02 1.70e+00 1.20e+00 1.70e-01
 8.40e-01 5.00e+00 7.80e-01 1.29e+00 6.00e+02], Class Predicted = 2
 X57 = [1.330e+01 1.720e+00 2.140e+00 1.700e+01 9.400e+01 2.400e+00 2.190e+00
 2.700e-01 1.350e+00 3.950e+00 1.020e+00 2.770e+00 1.285e+03], Class Predicted = 0
 X58 = [1.364e+01 3.100e+00 2.560e+00 1.520e+01 1.160e+02 2.700e+00 3.030e+00
 1.700e-01 1.660e+00 5.100e+00 9.600e-01 3.360e+00 8.450e+02], Class Predicted = 0
 X59 = [1.236e+01 3.830e+00 2.380e+00 2.100e+01 8.800e+01 2.300e+00 9.200e-01
 5.000e-01 1.040e+00 7.650e+00 5.600e-01 1.580e+00 5.200e+02], Class Predicted = 2
 X60 = [1.305e+01 1.730e+00 2.040e+00 1.240e+01 9.200e+01 2.720e+00 3.270e+00
 1.700e-01 2.910e+00 7.200e+00 1.120e+00 2.910e+00 1.150e+03], Class Predicted = 0
 X61 = [1.20e+01 3.43e+00 2.00e+00 1.90e+01 8.70e+01 2.00e+00 1.64e+00 3.70e-01
 1.87e+00 1.28e+00 9.30e-01 3.05e+00 5.64e+02], Class Predicted = 1
 X62 = [13.05 3.86 2.32 22.5 85. 1.65 1.59 0.61 1.62 4.8
 0.84 2.01 515.], Class Predicted = 2
 X63 = [1.308e+01 3.900e+00 2.360e+00 2.150e+01 1.130e+02 1.410e+00 1.390e+00
 3.400e-01 1.140e+00 9.400e+00 5.700e-01 1.330e+00 5.500e+02], Class Predicted = 2
 X64 = [1.373e+01 1.500e+00 2.700e+00 2.250e+01 1.010e+02 3.000e+00 3.250e+00
 2.900e-01 2.380e+00 5.700e+00 1.190e+00 2.710e+00 1.285e+03], Class Predicted = 0
 X65 = [1.371e+01 1.860e+00 2.360e+00 1.660e+01 1.010e+02 2.610e+00 2.880e+00
 2.700e-01 1.690e+00 3.800e+00 1.110e+00 4.000e+00 1.035e+03], Class Predicted = 0
 X66 = [1.141e+01 7.400e-01 2.500e+00 2.100e+01 8.800e+01 2.480e+00 2.010e+00
 4.200e-01 1.440e+00 3.080e+00 1.100e+00 2.310e+00 4.340e+02], Class Predicted = 1
 X67 = [1.32e+01 1.78e+00 2.14e+00 1.12e+01 1.00e+02 2.65e+00 2.76e+00 2.60e-01

```

1.28e+00 4.38e+00 1.05e+00 3.40e+00 1.05e+03], Class Predicted = 0
X68 = [1.316e+01 3.570e+00 2.150e+00 2.100e+01 1.020e+02 1.500e+00 5.500e-01
4.300e-01 1.300e+00 4.000e+00 6.000e-01 1.680e+00 8.300e+02], Class Predicted = 2
X69 = [1.34e+01 4.60e+00 2.86e+00 2.50e+01 1.12e+02 1.98e+00 9.60e-01 2.70e-01
1.11e+00 8.50e+00 6.70e-01 1.92e+00 6.30e+02], Class Predicted = 2
X70 = [ 12.      1.51     2.42    22.      86.      1.45     1.25     0.5      1.63     3.6
1.05     2.65    450. ], Class Predicted = 1
X71 = [1.284e+01 2.960e+00 2.610e+00 2.400e+01 1.010e+02 2.320e+00 6.000e-01
5.300e-01 8.100e-01 4.920e+00 8.900e-01 2.150e+00 5.900e+02], Class Predicted = 2

```

In []:

```
#Creating a new dataframe
df_new_RandFor = DataFrame(dict(x=X3_test[:,0], y=X3_test[:,1], label=y3_pred))
df_new_RandFor.head()
```

Out[]:

	x	y	label
0	14.10	2.02	0
1	13.45	3.70	2
2	13.11	1.01	0
3	12.22	1.29	1
4	12.58	1.29	2

4.5.2 Testing Predictions

In []:

```
#model score in test
RandFor.score(X3_test, y3_pred)
```

Out[]: 1.0

In []:

```
# r squared
correlation_matrix= np.corrcoef(y3_test, y3_pred)
correlation_xy=correlation_matrix[0,1]
r_squared=correlation_xy**2

print(r_squared)
```

0.9377894411855512

4.5.3 Metrics and Scoring

In []:

```
#Accuracy Score
accuracy_score(y3_test, y3_pred)
```

Out[]: 0.9444444444444444

In []:

```
#ROC Score
roc_auc_score(y3, RandFor.predict_proba(X3), multi_class='ovr')
```

Out[]: 1.0

In []:

```
#F1 Score
print(f1_score(y3_test, y3_pred, average='macro'))
print(f1_score(y3_test, y3_pred, average='micro'))
print(f1_score(y3_test, y3_pred, average='weighted'))
```

```
0.9426900584795321  
0.9444444444444444  
0.9455165692007798
```

```
In [ ]: #Precision Score  
print(precision_score(y3_test, y3_pred, average='macro'))  
print(precision_score(y3_test, y3_pred, average='micro'))  
print(precision_score(y3_test, y3_pred, average='weighted'))
```

```
0.9365079365079364  
0.9444444444444444  
0.955026455026455
```

```
In [ ]: #Recall Score  
print(recall_score(y3_test, y3_pred, average='macro'))  
print(recall_score(y3_test, y3_pred, average='micro'))  
print(recall_score(y3_test, y3_pred, average='weighted'))
```

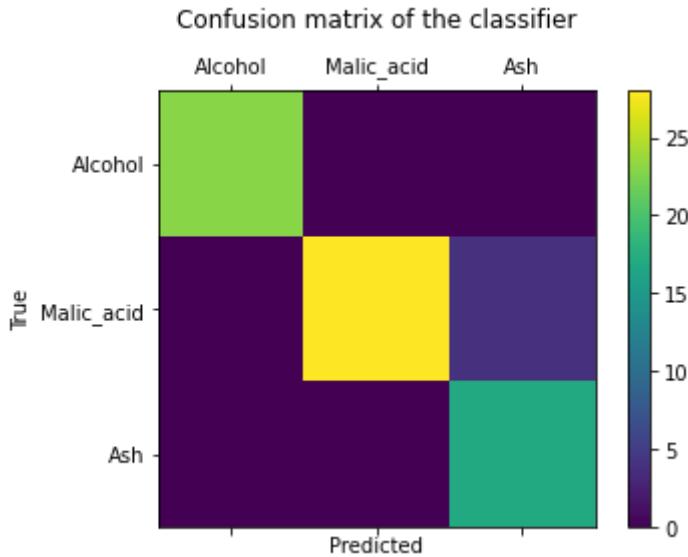
```
0.9583333333333334  
0.9444444444444444  
0.9444444444444444
```

4.5.4 Confusion Matrix

```
In [ ]: ConMat = confusion_matrix(y3_test, y3_pred)  
print(ConMat)
```

```
[[23  0  0]  
 [ 0 28  4]  
 [ 0  0 17]]
```

```
In [ ]: #Confusion Matrix  
labels = ["Alcohol", "Malic_acid", "Ash", "Alcalinity_of_ash", "Magnesium", "Total_p  
fig = plt.figure()  
ax = fig.add_subplot(111)  
cax = ax.matshow(ConMat)  
plt.title('Confusion matrix of the classifier\n')  
fig.colorbar(cax)  
ax.set_xticklabels([''] + labels)  
ax.set_yticklabels([''] + labels)  
plt.xlabel('Predicted')  
plt.ylabel('True')  
plt.show()
```



4.5.5 Cross Validation

```
In [ ]: #Shuffling data
X_shuffle, y_shuffle = shuffle(X3, y3, random_state=7)
```

```
In [ ]: #Cross Validation Score
scores = cross_val_score(RandFor, X_shuffle, y_shuffle,
                        scoring="neg_mean_squared_error",
                        cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0. 0. 0.17 0.24 0.17]
RMSE average: 0.11494864789584973

4.5.6 K-Fold

```
In [ ]: # define the folds
kfolds = KFold(n_splits=4, random_state=0, shuffle=True)
# print the folds
for train, test in kfolds.split(X3):
    print("Train: %s \nTest: %s\n" % (train, test))
```

Train: [0 1 2 3 6 9 10 11 12 13 14 15 16 17 19 20 21 22
23 25 27 28 29 31 32 34 35 36 38 39 40 41 42 43 46 47
48 49 50 52 53 57 58 59 62 64 65 67 68 69 70 71 72 73
74 75 76 77 78 79 81 82 83 84 85 87 88 89 91 95 96 97
99 100 102 103 105 107 108 109 110 114 115 116 117 118 119 120 122 124
125 127 128 130 131 132 133 134 135 136 137 138 139 140 142 143 144 145
147 148 149 150 152 153 154 155 156 157 158 159 162 163 165 166 167 169
170 171 172 173 175 176 177]
Test: [4 5 7 8 18 24 26 30 33 37 44 45 51 54 55 56 60 61
63 66 80 86 90 92 93 94 98 101 104 106 111 112 113 121 123 126
129 141 146 151 160 161 164 168 174]

Train: [0 1 3 4 5 6 7 8 9 11 12 13 14 15 17 18 20 21
23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 41 42
44 45 46 47 48 49 51 52 53 54 55 56 57 58 60 61 63 65
66 67 68 70 72 75 76 77 78 79 80 81 82 84 85 86 87 88
90 91 92 93 94 98 99 100 101 102 103 104 105 106 107 111 112 113
114 115 117 119 120 121 123 126 127 128 129 130 132 133 136 137 139 140
141 142 143 146 147 148 149 150 151 152 153 154 157 160 161 164 165 167]

```

168 169 172 173 174 176 177]
Test: [  2   10   16   19   22   27   40   43   50   59   62   64   69   71   73   74   83   89
      95   96   97  108  109  110  116  118  122  124  125  131  134  135  138  144  145  155
     156  158  159  162  163  166  170  171  175]

Train: [  2   4   5   7   8   9   10   16   17   18   19   21   22   24   25   26   27   28
      29   30   31   32   33   34   36   37   38   39   40   43   44   45   47   50   51   53
      54   55   56   58   59   60   61   62   63   64   66   67   69   70   71   72   73   74
      77   79   80   81   82   83   86   87   88   89   90   92   93   94   95   96   97   98
     99  101  103  104  106  108  109  110  111  112  113  114  115  116  117  118  121  122
    123  124  125  126  127  128  129  131  133  134  135  138  139  140  141  142  144  145
    146  147  148  149  150  151  155  156  157  158  159  160  161  162  163  164  166  167
   168  169  170  171  172  174  175  177]

Test: [  0   1   3   6   11   12   13   14   15   20   23   35   41   42   46   48   49   52
      57   65   68   75   76   78   84   85   91  100  102  105  107  119  120  130  132  136
     137  143  152  153  154  165  173  176]

Train: [  0   1   2   3   4   5   6   7   8   10   11   12   13   14   15   16   18   19
      20   22   23   24   26   27   30   33   35   37   40   41   42   43   44   45   46   48
      49   50   51   52   54   55   56   57   59   60   61   62   63   64   65   66   68   69
      71   73   74   75   76   78   80   83   84   85   86   89   90   91   92   93   94   95
      96   97   98  100  101  102  104  105  106  107  108  109  110  111  112  113  116  118
     119  120  121  122  123  124  125  126  129  130  131  132  134  135  136  137  138  141
     143  144  145  146  151  152  153  154  155  156  158  159  160  161  162  163  164  165
    166  168  170  171  173  174  175  176]

Test: [  9   17   21   25   28   29   31   32   34   36   38   39   47   53   58   67   70   72
      77   79   81   82   87   88   99  103  114  115  117  127  128  133  139  140  142  147
     148  149  150  157  167  169  172  177]

```

In []:

```
# Output the accuracy
results = cross_val_score(RandFor, X3, y3, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.97777778 0.93333333 1. 1. 1.]

In []:

```
# print the mean and std across all folds
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 97.778% (2.722%)

5. Breast Cancer Dataset

5.1 Data Preparation

In []:

```
breast_cancer = sklearn.datasets.load_breast_cancer()
print(breast_cancer)
```


Via Linear Programming." Proceedings of the 4th\nMidwest Artificial Intelligence and Cognitive Science Society,\npp. 97-101, 1992], a classification method which uses linear\nprogramming to construct a decision tree. Relevant features\nwere selected using an exhaustive search in the space of 1-4\nfeatures and 1-3 separating planes.\n\nThe actual linear program used to obtain the separating plane\nin the 3-dimensional space is that described in:\n[K. P. Bennett and O. L. Mangasarian: "Robust Linear\nProgramming Discrimination of Two Linearly Inseparable Sets",\nOptimization Methods and Software 1, 1992, 23-34].\n\nThis database is also available through the UW CS\nftp server:\nftp.cs.wisc.edu/ncd/math-prog/cpo-dataset/machine-learn/WDBC/\n..\ntopic:: References\n- W.N. Street, W.H. Wolberg and O.L. Mangasarian. Nuclear\nfeature extraction for breast tumor diagnosis. IS&T/SPIE 1993 International\nSymposium on Electronic Imaging: Science and Technology, volume 1905, pages\n861-870, San Jose, CA, 1993.\n- O.L. Mangasarian, W.N. Street and W.H. Wolberg. Breast cancer diagnosis and prognosis via linear programming. Operations Research, 43(4), pages 570-577, July-August 1995.\n- W.H. Wolberg, W.N. Street, and O.L. Mangasarian. Machine learning techniques to diagnose breast cancer from fine-needle aspirates. Cancer Letters 77 (1994) 163-171.', 'feature_names': array(['mean radius', 'mean texture', 'mean perimeter', 'mean area', 'mean smoothness', 'mean compactness', 'mean concavity', 'mean concave points', 'mean symmetry', 'mean fractal dimension', 'radius error', 'texture error', 'perimeter error', 'area error', 'smoothness error', 'compactness error', 'concavity error', 'concave points error', 'symmetry error', 'fractal dimension error', 'worst radius', 'worst texture', 'worst perimeter', 'worst area', 'worst smoothness', 'worst compactness', 'worst concavity', 'worst concave points', 'worst symmetry', 'worst fractal dimension'], dtype='|U23'), 'filename': '/usr/local/lib/python3.7/dist-packages/scikit-learn/datasets/data/breast_cancer.csv'}

```
In [ ]: print(breast_cancer.data.shape, breast_cancer.target.shape)
```

```
(569, 30) (569,)
```

```
In [ ]: df = pd.DataFrame(breast_cancer.data, columns=breast_cancer.feature_names)
df.head()
```

Out[]:

	mean radius	mean texture	mean perimeter	mean area	mean smoothness	mean compactness	mean concavity	mean concave points	mean symmetry	mean di
0	17.99	10.38	122.80	1001.0	0.11840	0.27760	0.3001	0.14710	0.2419	
1	20.57	17.77	132.90	1326.0	0.08474	0.07864	0.0869	0.07017	0.1812	
2	19.69	21.25	130.00	1203.0	0.10960	0.15990	0.1974	0.12790	0.2069	
3	11.42	20.38	77.58	386.1	0.14250	0.28390	0.2414	0.10520	0.2597	
4	20.29	14.34	135.10	1297.0	0.10030	0.13280	0.1980	0.10430	0.1809	

In []:

```
df['Class'] = breast_cancer.target
df.head()
```

Out[]:

	mean radius	mean texture	mean perimeter	mean area	mean smoothness	mean compactness	mean concavity	mean concave points	mean symmetry	mean di
0	17.99	10.38	122.80	1001.0	0.11840	0.27760	0.3001	0.14710	0.2419	
1	20.57	17.77	132.90	1326.0	0.08474	0.07864	0.0869	0.07017	0.1812	
2	19.69	21.25	130.00	1203.0	0.10960	0.15990	0.1974	0.12790	0.2069	

	mean radius	mean texture	mean perimeter	mean area	mean smoothness	mean compactness	mean concavity	mean concave points	mean symmetry	mean di
3	11.42	20.38	77.58	386.1	0.14250	0.28390	0.2414	0.10520	0.2597	
4	20.29	14.34	135.10	1297.0	0.10030	0.13280	0.1980	0.10430	0.1809	

◀ ▶

In []: df.describe()

Out[]:

	mean radius	mean texture	mean perimeter	mean area	mean smoothness	mean compactness	mean concavity	mean concave points	mean symmetry	mean di
count	569.000000	569.000000	569.000000	569.000000	569.000000	569.000000	569.000000	569.000000	569.000000	569.000000
mean	14.127292	19.289649	91.969033	654.889104	0.096360	0.104341	0.088799	0.105200	0.259700	0.180900
std	3.524049	4.301036	24.298981	351.914129	0.014064	0.052813	0.079720	0.104341	0.259700	0.180900
min	6.981000	9.710000	43.790000	143.500000	0.052630	0.019380	0.000000	0.000000	0.000000	0.000000
25%	11.700000	16.170000	75.170000	420.300000	0.086370	0.064920	0.029560	0.029560	0.029560	0.029560
50%	13.370000	18.840000	86.240000	551.100000	0.095870	0.092630	0.061540	0.061540	0.061540	0.061540
75%	15.780000	21.800000	104.100000	782.700000	0.105300	0.130400	0.130700	0.130700	0.130700	0.130700
max	28.110000	39.280000	188.500000	2501.000000	0.163400	0.345400	0.426800	0.426800	0.426800	0.426800

◀ ▶

In []: df['Class'].value_counts()

Out[]: 1 357
0 212
Name: Class, dtype: int64

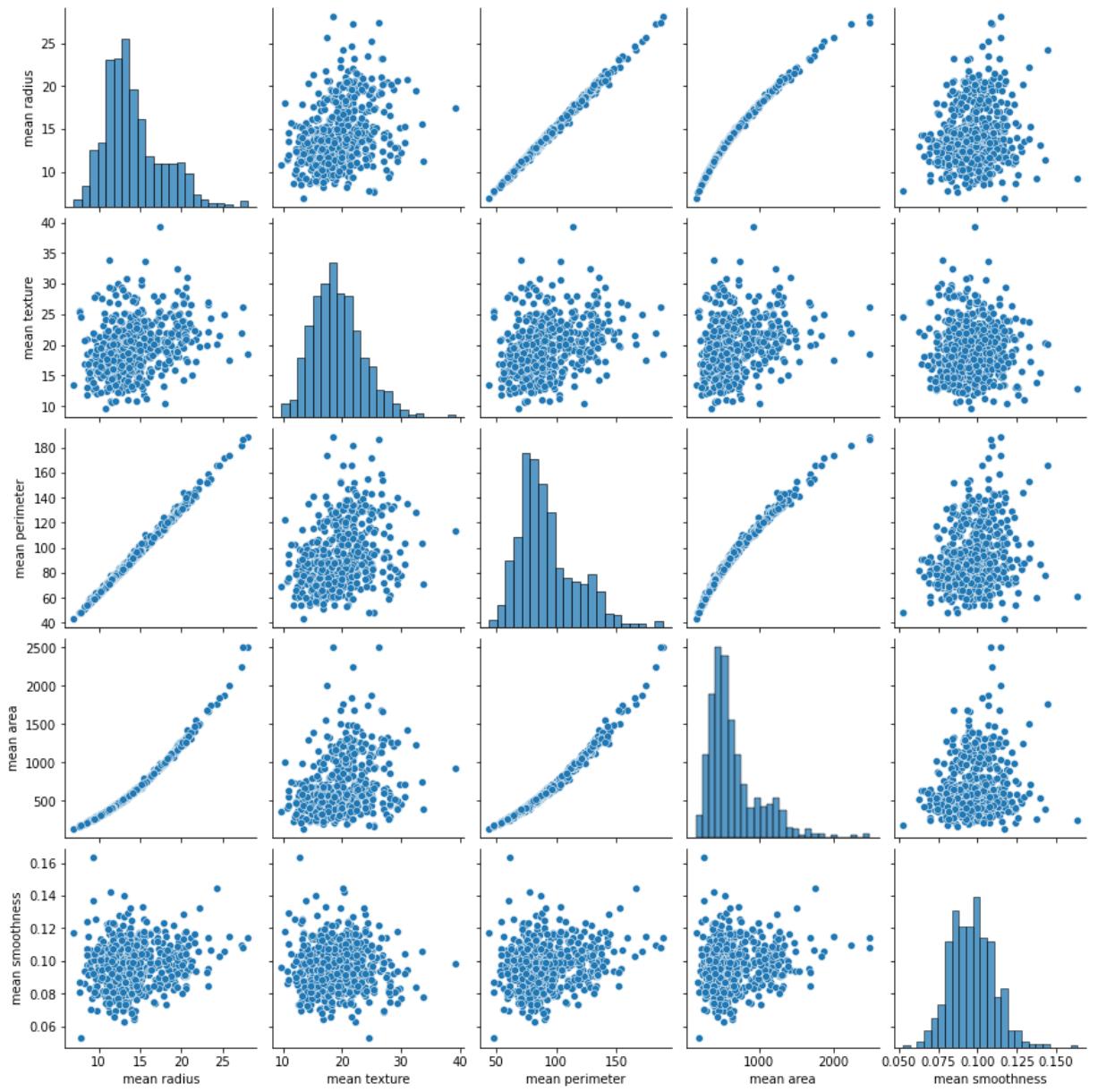
In []: x = breast_cancer.data
y = breast_cancer.target
#will use 10% data for testing and 90% for training
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.1, stratify=y,

In []: print(y.shape, y_test.shape, y_train.shape)

(569,) (57,) (512,)

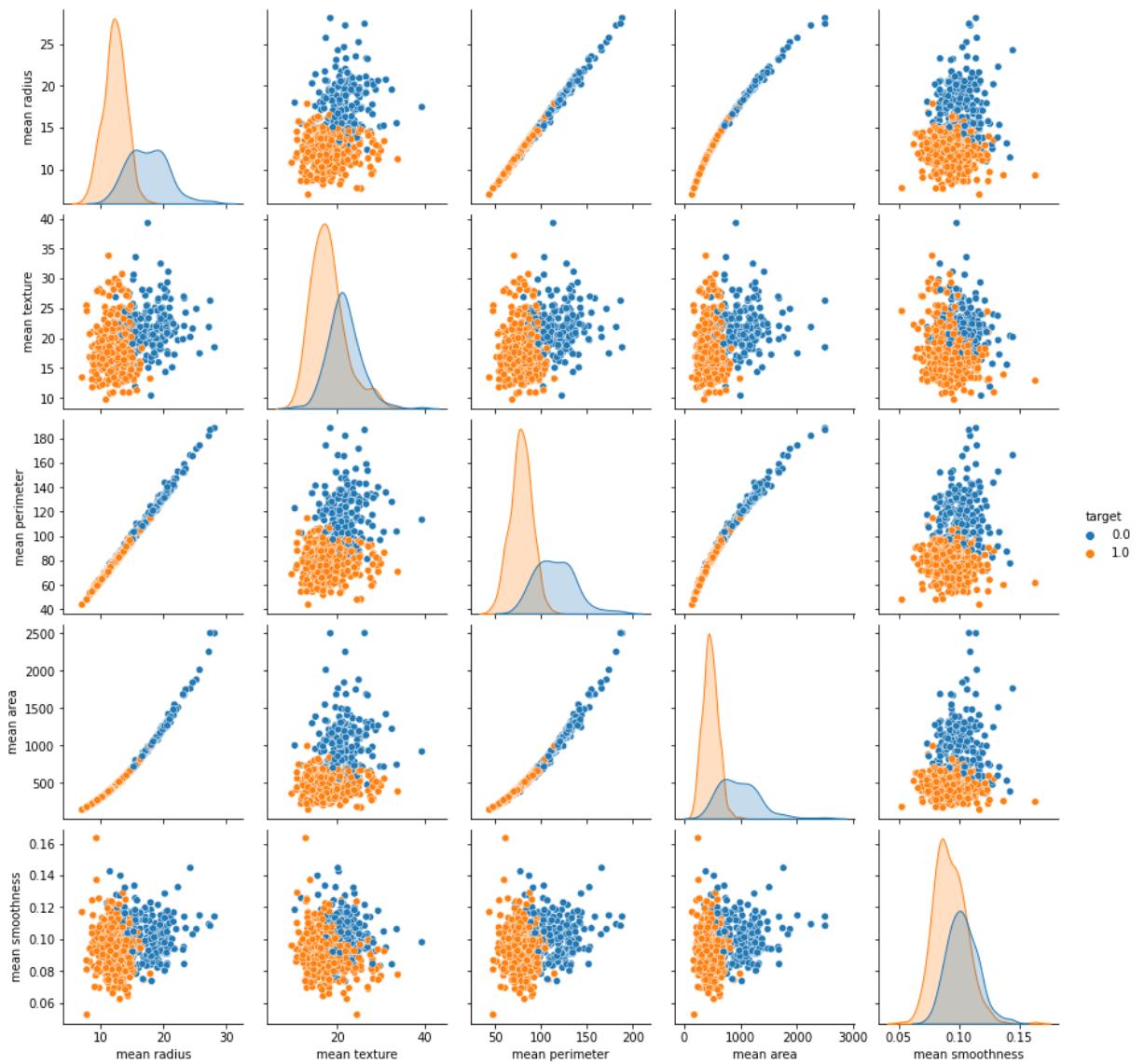
In []: breast_cancer = pd.DataFrame(np.c_[breast_cancer['data'], breast_cancer['target']],
sns.pairplot(breast_cancer, vars = ['mean radius', 'mean texture', 'mean perimeter',
'mean smoothness'])

Out[]: <seaborn.axisgrid.PairGrid at 0x7fc841429e50>



```
In [ ]: sns.pairplot(breast_cancer, hue = 'target', vars = ['mean radius', 'mean texture', 'mean perimeter', 'mean area', 'mean smoothness'])
```

```
Out[ ]: <seaborn.axisgrid.PairGrid at 0x7fc8408da650>
```



5.2 Logistic Regression

```
In [ ]: lr = LogisticRegression(max_iter = 10000)
# training the model on training data
lr.fit(x_train, y_train)

#Model score
lr.score(x_train, y_train)
```

Out[]: 0.9609375

```
In [ ]: train_pred = lr.predict(x_train) #Prediction on training data
acc = accuracy_score(y_train, train_pred) #Accuracy on training data
```

```
In [ ]: print(f'Accuracy on training data: {acc}')
```

Accuracy on training data: 0.9609375

```
In [ ]: test_pred = lr.predict(x_test)
test_acc = accuracy_score(y_test, test_pred)
print(f'Accuracy on testing data: {test_acc}')
```

Accuracy on testing data: 0.9473684210526315

```
In [ ]: input_data = (11.45,20.97,73.81,401.5,0.1102,0.09362,0.04591,0.02233,0.1842,0.07005,
#Convert the above data to numpy array
input_data = np.asarray(input_data)

#Reshape it
input_data = input_data.reshape(1,-1)

print(input_data)
```

[1] [1.145e+01 2.097e+01 7.381e+01 4.015e+02 1.102e-01 9.362e-02 4.591e-02
2.233e-02 1.842e-01 7.005e-02 3.251e-01 2.174e+00 2.077e+00 2.462e+01
1.037e-02 1.706e-02 2.586e-02 7.506e-03 1.816e-02 3.976e-03 1.311e+01
3.216e+01 8.453e+01 5.251e+02 1.557e-01 1.676e-01 1.755e-01 6.127e-02
2.762e-01 8.851e-02]]

5.2.1 Making Predictions

```
In [ ]: #Prediction
prediction = lr.predict(input_data)
print(prediction)

if prediction[0]==0:
    print('Breast Cancer is Malignant')
else:
    print('Breast Cancer is Benign')
```

[1]
Breast Cancer is Benign

5.2.2 Testing Predictions

```
In [ ]: #Model Score in Test, returning the R^2
lr.score(x_test, test_pred)
```

Out[]: 1.0

2.2.3 Metrics & Scoring

```
In [ ]: #Accuracy Score
accuracy_score(y_test, test_pred)
```

Out[]: 0.9473684210526315

```
In [ ]: # Find R Squared
correlation_matrix = np.corrcoef(y_test, test_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

0.7857303732303723

```
In [ ]: #ROC Score
roc_auc_score(y_test, lr.predict(x_test), multi_class='ovr')
```

Out[]: 0.9384920634920635

```
In [ ]: #F1 Score  
print(f1_score(y_test, test_pred, average='macro'))  
print(f1_score(y_test, test_pred, average='micro'))  
print(f1_score(y_test, test_pred, average='weighted'))
```

```
0.942866688940862  
0.9473684210526315  
0.9470870627956459
```

```
In [ ]: #Precision Score  
print(precision_score(y_test, test_pred, average='macro'))  
print(precision_score(y_test, test_pred, average='micro'))  
print(precision_score(y_test, test_pred, average='weighted'))
```

```
0.9479729729729729  
0.9473684210526315  
0.9474395448079658
```

```
In [ ]: #Recall Score  
print(recall_score(y_test, test_pred, average='macro'))  
print(recall_score(y_test, test_pred, average='micro'))  
print(recall_score(y_test, test_pred, average='weighted'))
```

```
0.9384920634920635  
0.9473684210526315  
0.9473684210526315
```

```
In [ ]: #Cohen Kappa Score  
cohen_kappa_score(y_test, test_pred)
```

```
Out[ ]: 0.8857715430861723
```

```
In [ ]: mse = mean_squared_error(y_test, test_pred)  
rmse = np.sqrt(mse)  
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.23
```

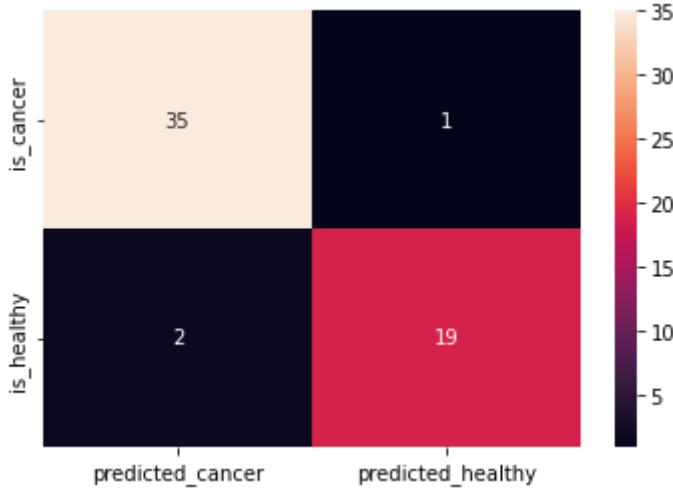
5.2.4 Confusion Matrix

```
In [ ]: cm = np.array(confusion_matrix(y_test, test_pred, labels=[1,0]))  
confusion = pd.DataFrame(cm, index=['is_cancer', 'is_healthy'],  
                         columns=['predicted_cancer','predicted_healthy'])  
confusion
```

```
Out[ ]:      predicted_cancer  predicted_healthy  
is_cancer           35              1  
is_healthy          2             19
```

```
In [ ]: sns.heatmap(confusion, annot=True)
```

```
Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7fc83ee68d50>
```



5.2.5 Cross-Validation

```
In [ ]:
x_shuffle, y_shuffle = shuffle(x, y, random_state=7)

scores = cross_val_score(lr, x_shuffle, y_shuffle,
                        scoring="neg_mean_squared_error",
                        cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.25 0.19 0.28 0.19 0.23]
RMSE average: 0.22676719875832646

5.2.6 K-Fold

```
In [ ]:
#Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(x):
    print("Train: %s \nTest: %s\n" % (train, test))
```

	0	2	3	4	5	6	7	8	9	11	13	16	18	19	20	22	23	24
25	26	27	28	29	30	32	33	34	35	36	38	39	40	41	42	43	44	
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	65	
67	68	69	70	72	73	74	77	79	80	81	82	83	84	86	87	88	91	
92	93	94	95	97	98	99	100	101	104	105	106	109	110	111	112	114	115	
116	117	119	120	121	122	123	124	125	126	128	129	130	131	133	135	136	137	
138	139	141	143	144	145	146	147	148	149	150	151	152	153	154	155	156	158	
160	161	163	164	166	167	168	169	171	173	174	176	177	178	180	181	182	183	
184	186	187	189	191	192	193	195	197	198	199	200	201	202	203	204	206	207	
209	212	214	215	216	217	218	219	220	221	222	223	226	227	228	229	230	232	
234	237	238	240	241	243	244	245	246	248	251	252	253	254	255	256	257	258	
259	260	261	262	265	266	267	269	270	273	274	275	276	277	278	279	280	282	
284	285	286	287	288	289	290	291	292	293	294	295	296	297	299	300	302	303	
304	305	307	309	311	312	314	315	316	317	320	321	322	323	324	326	327	328	
329	331	332	333	334	335	336	339	341	342	343	344	346	347	349	351	352	355	
357	359	360	361	362	363	365	367	368	369	370	371	373	374	375	376	377	378	
379	381	383	386	387	388	390	392	393	394	395	396	397	398	399	402	403	404	
405	407	408	409	410	411	415	418	419	422	423	424	425	426	428	429	430	431	
433	435	436	437	438	440	441	442	443	444	445	446	447	448	449	450	451	452	
453	454	455	456	459	460	461	462	464	467	470	472	474	475	476	477	478	479	
480	481	483	484	485	486	487	488	489	491	493	494	495	496	497	498	499	501	
502	503	505	506	507	508	509	510	511	513	517	520	521	522	523	524	526	528	
529	530	531	532	533	534	535	536	537	539	540	541	543	544	545	548	549	551	
552	553	554	555	556	557	558	559	561	563	565	568							

Test: [1 10 12 14 15 17 21 31 37 45 46 64 66 71 75 76 78 85
 89 90 96 102 103 107 108 113 118 127 132 134 140 142 157 159 162 165
 170 172 175 179 185 188 190 194 196 205 208 210 211 213 224 225 231 233
 235 236 239 242 247 249 250 263 264 268 271 272 281 283 298 301 306 308
 310 313 318 319 325 330 337 338 340 345 348 350 353 354 356 358 364 366
 372 380 382 384 385 389 391 400 401 406 412 413 414 416 417 420 421 427
 432 434 439 457 458 463 465 466 468 469 471 473 482 490 492 500 504 512
 514 515 516 518 519 525 527 538 542 546 547 550 560 562 564 566 567]

Train: [0 1 2 3 9 10 11 12 13 14 15 16 17 19 21 23 24 25
 27 28 29 31 32 33 35 36 37 39 40 41 42 43 44 45 46 47
 48 50 53 57 58 61 62 64 66 67 69 70 71 72 73 75 76 77
 78 79 80 82 83 84 85 86 87 88 89 90 91 94 95 96 98 99
 102 103 104 107 108 109 110 111 113 114 115 117 118 119 121 123 125 127
 128 129 130 131 132 133 134 136 138 139 140 142 143 145 146 147 148 149
 150 151 152 156 157 159 161 162 163 165 166 168 169 170 172 174 175 176
 177 178 179 180 182 183 184 185 187 188 189 190 192 193 194 196 197 198
 199 201 203 204 205 207 208 209 210 211 212 213 214 215 216 217 218 221
 222 223 224 225 226 227 228 231 232 233 234 235 236 237 239 241 242 244
 247 248 249 250 251 253 254 255 256 257 258 259 260 263 264 265 266 267
 268 269 270 271 272 273 274 275 277 279 280 281 283 286 287 288 289 290
 291 292 294 295 296 297 298 300 301 302 304 305 306 307 308 309 310 311
 313 314 317 318 319 321 323 324 325 326 327 328 330 331 335 337 338 340
 341 342 345 348 349 350 351 352 353 354 356 358 359 360 362 363 364 365
 366 368 369 370 371 372 373 374 375 376 377 380 381 382 383 384 385 386
 387 388 389 391 393 394 395 396 397 398 399 400 401 402 404 405 406 407
 410 411 412 413 414 416 417 418 419 420 421 422 423 424 426 427 430 431
 432 433 434 435 438 439 442 443 444 445 446 447 448 449 450 451 452 455
 456 457 458 459 460 461 462 463 465 466 467 468 469 470 471 472 473 475
 476 480 482 483 485 486 488 490 491 492 493 494 495 496 497 498 500 501
 504 506 507 509 510 511 512 513 514 515 516 518 519 520 521 522 524 525
 527 528 529 530 532 533 535 536 537 538 539 540 541 542 543 544 545 546
 547 550 551 552 556 558 559 560 562 564 566 567 568]

Test: [4 5 6 7 8 18 20 22 26 30 34 38 49 51 52 54 55 56
 59 60 63 65 68 74 81 92 93 97 100 101 105 106 112 116 120 122
 124 126 135 137 141 144 153 154 155 158 160 164 167 171 173 181 186 191
 195 200 202 206 219 220 229 230 238 240 243 245 246 252 261 262 276 278
 282 284 285 293 299 303 312 315 316 320 322 329 332 333 334 336 339 343
 344 346 347 355 357 361 367 378 379 390 392 403 408 409 415 425 428 429
 436 437 440 441 453 454 464 474 477 478 479 481 484 487 489 499 502 503
 505 508 517 523 526 531 534 548 549 553 554 555 557 561 563 565]

Train: [0 1 3 4 5 6 7 8 9 10 11 12 14 15 17 18 20 21
 22 23 26 28 30 31 32 34 36 37 38 41 42 43 45 46 47 48
 49 50 51 52 53 54 55 56 57 58 59 60 62 63 64 65 66 68
 69 70 71 72 74 75 76 77 78 80 81 82 84 85 86 87 89 90
 91 92 93 94 95 96 97 98 99 100 101 102 103 105 106 107 108 112
 113 115 116 118 119 120 122 123 124 125 126 127 128 130 131 132 134 135
 137 140 141 142 143 144 147 148 151 153 154 155 157 158 159 160 162 163
 164 165 167 169 170 171 172 173 174 175 177 178 179 180 181 182 183 184
 185 186 187 188 190 191 192 193 194 195 196 197 200 201 202 203 205 206
 207 208 209 210 211 213 219 220 222 224 225 226 227 229 230 231 233 235
 236 238 239 240 242 243 244 245 246 247 249 250 252 256 257 258 261 262
 263 264 265 266 268 270 271 272 273 275 276 277 278 279 280 281 282 283
 284 285 286 288 291 292 293 294 298 299 301 303 304 305 306 307 308 310
 312 313 314 315 316 318 319 320 321 322 324 325 329 330 332 333 334 335
 336 337 338 339 340 341 343 344 345 346 347 348 349 350 353 354 355 356
 357 358 359 360 361 364 366 367 368 369 370 371 372 373 377 378 379 380
 382 383 384 385 387 388 389 390 391 392 394 396 397 398 400 401 403 405
 406 408 409 411 412 413 414 415 416 417 418 419 420 421 423 425 427 428
 429 430 431 432 434 436 437 439 440 441 442 446 448 451 453 454 457 458
 459 461 463 464 465 466 468 469 471 472 473 474 476 477 478 479 480 481
 482 484 485 486 487 488 489 490 492 495 499 500 502 503 504 505 508 509
 510 511 512 514 515 516 517 518 519 521 522 523 525 526 527 528 529 531
 534 535 536 537 538 540 542 543 544 546 547 548 549 550 551 553 554 555
 556 557 558 559 560 561 562 563 564 565 566 567 568]

Test: [2 13 16 19 24 25 27 29 33 35 39 40 44 61 67 73 79 83
 88 104 109 110 111 114 117 121 129 133 136 138 139 145 146 149 149 150 152
 156 161 166 168 176 189 198 199 204 212 214 215 216 217 218 221 223 228]

```
232 234 237 241 248 251 253 254 255 259 260 267 269 274 287 289 290 295  
296 297 300 302 309 311 317 323 326 327 328 331 342 351 352 362 363 365  
374 375 376 381 386 393 395 399 402 404 407 410 422 424 426 433 435 438  
443 444 445 447 449 450 452 455 456 460 462 467 470 475 483 491 493 494  
496 497 498 501 506 507 513 520 524 530 532 533 539 541 545 552]
```

```
Train: [ 1  2   4   5   6   7   8   10  12  13  14  15  16  17  18  19  20  21  
 22  24  25  26  27  29  30  31  33  34  35  37  38  39  40  44  45  46  
 49  51  52  54  55  56  59  60  61  63  64  65  66  67  68  71  73  74  
 75  76  78  79  81  83  85  88  89  90  92  93  96  97  100 101 102 103  
104 105 106 107 108 109 110 111 112 113 114 116 117 118 120 121 122 124  
126 127 129 132 133 134 135 136 137 138 139 140 141 142 144 145 146 149  
150 152 153 154 155 156 157 158 159 160 161 162 164 165 166 167 168 170  
171 172 173 175 176 179 181 185 186 188 189 190 191 194 195 196 198 199  
200 202 204 205 206 208 210 211 212 213 214 215 216 217 218 219 220 221  
223 224 225 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242  
243 245 246 247 248 249 250 251 252 253 254 255 259 260 261 262 263 264  
267 268 269 271 272 274 276 278 281 282 283 284 285 287 289 290 293 295  
296 297 298 299 300 301 302 303 306 308 309 310 311 312 313 315 316 317  
318 319 320 322 323 325 326 327 328 329 330 331 332 333 334 336 337 338  
339 340 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358  
361 362 363 364 365 366 367 372 374 375 376 378 379 380 381 382 384 385  
386 389 390 391 392 393 395 399 400 401 402 403 404 406 407 408 409 410  
412 413 414 415 416 417 420 421 422 424 425 426 427 428 429 432 433 434  
435 436 437 438 439 440 441 443 444 445 447 449 450 452 453 454 455 456  
457 458 460 462 463 464 465 466 467 468 469 470 471 473 474 475 477 478  
479 481 482 483 484 487 489 490 491 492 493 494 496 497 498 499 500 501  
502 503 504 505 506 507 508 512 513 514 515 516 517 518 519 520 523 524  
525 526 527 530 531 532 533 534 538 539 541 542 545 546 547 548 549 550  
552 553 554 555 557 560 561 562 563 564 565 566 567]  
Test: [ 0   3   9   11  23  28  32  36  41  42  43  47  48  50  53  57  58  62  
 69  70  72  77  80  82  84  86  87  91  94  95  98  99  115 119 123 125  
128 130 131 143 147 148 151 163 169 174 177 178 180 182 183 184 187 192  
193 197 201 203 207 209 222 226 227 244 256 257 258 265 266 270 273 275  
277 279 280 286 288 291 292 294 304 305 307 314 321 324 335 341 349 359  
360 368 369 370 371 373 377 383 387 388 394 396 397 398 405 411 418 419  
423 430 431 442 446 448 451 459 461 472 476 480 485 486 488 495 509 510  
511 521 522 528 529 535 536 537 540 543 544 551 556 558 559 568]
```

In []:

```
#Output the accuracy  
results = cross_val_score(lr, x, y, cv=kfold)  
print('Results from all folds: ', results)
```

```
Results from all folds: [0.95104895 0.97887324 0.9084507 0.95774648]
```

In []:

```
#Printing the mean and std across all folds  
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

```
Accuracy: 94.903% (2.558%)
```

5.3 Support Vector Machines

In []:

```
#Support Vector Machine  
svm_model = SVC(C=0.5, kernel='linear')  
#Fit the model  
svm_model.fit(x_train, y_train)
```

Out[]:

```
SVC(C=0.5, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,  
     decision_function_shape='ovr', degree=3, gamma='scale', kernel='linear',  
     max_iter=-1, probability=False, random_state=None, shrinking=True,  
     tol=0.001, verbose=False)
```

In []:

```
#Model score in training returns the coefficient of determination R^2 where 1=100%
```

```
svm_model.score(x_train, y_train)
```

```
Out[ ]: 0.9642857142857143
```

5.3.1 Making Predictions

```
In [ ]:
```

```
#Make predictions (assign class labels)
test_pred = svm_model.predict(x_test)

#Show inputs and predicted outputs
for i in range(len(x_test)):
    #print("X=%s, Class Predicted = %s" % (x_test[i], test_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, x_test[i], test_pred[i]))
```

```
X0 = [1.152e+01 1.875e+01 7.334e+01 4.090e+02 9.524e-02 5.473e-02 3.036e-02
2.278e-02 1.920e-01 5.907e-02 3.249e-01 9.591e-01 2.183e+00 2.347e+01
8.328e-03 8.722e-03 1.349e-02 8.670e-03 3.218e-02 2.386e-03 1.284e+01
2.247e+01 8.181e+01 5.062e+02 1.249e-01 8.720e-02 9.076e-02 6.316e-02
3.306e-01 7.036e-02], Class Predicted = 1
X1 = [1.602e+01 2.324e+01 1.027e+02 7.978e+02 8.206e-02 6.669e-02 3.299e-02
3.323e-02 1.528e-01 5.697e-02 3.795e-01 1.187e+00 2.466e+00 4.051e+01
4.029e-03 9.269e-03 1.101e-02 7.591e-03 1.460e-02 3.042e-03 1.919e+01
3.388e+01 1.238e+02 1.150e+03 1.181e-01 1.551e-01 1.459e-01 9.975e-02
2.948e-01 8.452e-02], Class Predicted = 0
X2 = [1.730e+01 1.708e+01 1.130e+02 9.282e+02 1.008e-01 1.041e-01 1.266e-01
8.353e-02 1.813e-01 5.613e-02 3.093e-01 8.568e-01 2.193e+00 3.363e+01
4.757e-03 1.503e-02 2.332e-02 1.262e-02 1.394e-02 2.362e-03 1.985e+01
2.509e+01 1.309e+02 1.222e+03 1.416e-01 2.405e-01 3.378e-01 1.857e-01
3.138e-01 8.113e-02], Class Predicted = 0
X3 = [1.486e+01 1.694e+01 9.489e+01 6.737e+02 8.924e-02 7.074e-02 3.346e-02
2.877e-02 1.573e-01 5.703e-02 3.028e-01 6.683e-01 1.612e+00 2.392e+01
5.756e-03 1.665e-02 1.461e-02 8.281e-03 1.551e-02 2.168e-03 1.631e+01
2.054e+01 1.023e+02 7.775e+02 1.218e-01 1.550e-01 1.220e-01 7.971e-02
2.525e-01 6.827e-02], Class Predicted = 1
X4 = [7.760e+00 2.454e+01 4.792e+01 1.810e+02 5.263e-02 4.362e-02 0.000e+00
0.000e+00 1.587e-01 5.884e-02 3.857e-01 1.428e+00 2.548e+00 1.915e+01
7.189e-03 4.660e-03 0.000e+00 0.000e+00 2.676e-02 2.783e-03 9.456e+00
3.037e+01 5.916e+01 2.686e+02 8.996e-02 6.444e-02 0.000e+00 0.000e+00
2.871e-01 7.039e-02], Class Predicted = 1
X5 = [1.356e+01 1.390e+01 8.859e+01 5.613e+02 1.051e-01 1.192e-01 7.860e-02
4.451e-02 1.962e-01 6.303e-02 2.569e-01 4.981e-01 2.011e+00 2.103e+01
5.851e-03 2.314e-02 2.544e-02 8.360e-03 1.842e-02 2.918e-03 1.498e+01
1.713e+01 1.011e+02 6.866e+02 1.376e-01 2.698e-01 2.577e-01 9.090e-02
3.065e-01 8.177e-02], Class Predicted = 1
X6 = [2.009e+01 2.386e+01 1.347e+02 1.247e+03 1.080e-01 1.838e-01 2.283e-01
1.280e-01 2.249e-01 7.469e-02 1.072e+00 1.743e+00 7.804e+00 1.308e+02
7.964e-03 4.732e-02 7.649e-02 1.936e-02 2.736e-02 5.928e-03 2.368e+01
2.943e+01 1.588e+02 1.696e+03 1.347e-01 3.391e-01 4.932e-01 1.923e-01
3.294e-01 9.469e-02], Class Predicted = 0
X7 = [2.425e+01 2.020e+01 1.662e+02 1.761e+03 1.447e-01 2.867e-01 4.268e-01
2.012e-01 2.655e-01 6.877e-02 1.509e+00 3.120e+00 9.807e+00 2.330e+02
2.333e-02 9.806e-02 1.278e-01 1.822e-02 4.547e-02 9.875e-03 2.602e+01
2.399e+01 1.809e+02 2.073e+03 1.696e-01 4.244e-01 5.803e-01 2.248e-01
3.222e-01 8.009e-02], Class Predicted = 0
X8 = [1.287e+01 1.954e+01 8.267e+01 5.092e+02 9.136e-02 7.883e-02 1.797e-02
2.090e-02 1.861e-01 6.347e-02 3.665e-01 7.693e-01 2.597e+00 2.650e+01
5.910e-03 1.362e-02 7.066e-03 6.502e-03 2.223e-02 2.378e-03 1.445e+01
2.438e+01 9.514e+01 6.269e+02 1.214e-01 1.652e-01 7.127e-02 6.384e-02
3.313e-01 7.735e-02], Class Predicted = 1
X9 = [1.505e+01 1.907e+01 9.726e+01 7.019e+02 9.215e-02 8.597e-02 7.486e-02
4.335e-02 1.561e-01 5.915e-02 3.860e-01 1.198e+00 2.630e+00 3.849e+01
4.952e-03 1.630e-02 2.967e-02 9.423e-03 1.152e-02 1.718e-03 1.758e+01
2.806e+01 1.138e+02 9.670e+02 1.246e-01 2.101e-01 2.866e-01 1.120e-01
2.282e-01 6.954e-02], Class Predicted = 1
X10 = [1.131e+01 1.904e+01 7.180e+01 3.941e+02 8.139e-02 4.701e-02 3.709e-02
2.230e-02 1.516e-01 5.667e-02 2.727e-01 9.429e-01 1.831e+00 1.815e+01
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9.282e-03 9.216e-03 2.063e-02 8.965e-03 2.183e-02 2.146e-03 1.233e+01
 2.384e+01 7.800e+01 4.667e+02 1.290e-01 9.148e-02 1.444e-01 6.961e-02
 2.400e-01 6.641e-02], Class Predicted = 1
 X11 = [1.133e+01 1.416e+01 7.179e+01 3.966e+02 9.379e-02 3.872e-02 1.487e-03
 3.333e-03 1.954e-01 5.821e-02 2.375e-01 1.280e+00 1.565e+00 1.709e+01
 8.426e-03 8.998e-03 1.487e-03 3.333e-03 2.358e-02 1.627e-03 1.220e+01
 1.899e+01 7.737e+01 4.580e+02 1.259e-01 7.348e-02 4.955e-03 1.111e-02
 2.758e-01 6.386e-02], Class Predicted = 1
 X12 = [1.959e+01 1.815e+01 1.307e+02 1.214e+03 1.120e-01 1.666e-01 2.508e-01
 1.286e-01 2.027e-01 6.082e-02 7.364e-01 1.048e+00 4.792e+00 9.707e+01
 4.057e-03 2.277e-02 4.029e-02 1.303e-02 1.686e-02 3.318e-03 2.673e+01
 2.639e+01 1.749e+02 2.232e+03 1.438e-01 3.846e-01 6.810e-01 2.247e-01
 3.643e-01 9.223e-02], Class Predicted = 0
 X13 = [1.795e+01 2.001e+01 1.142e+02 9.820e+02 8.402e-02 6.722e-02 7.293e-02
 5.596e-02 2.129e-01 5.025e-02 5.506e-01 1.214e+00 3.357e+00 5.404e+01
 4.024e-03 8.422e-03 2.291e-02 9.863e-03 5.014e-02 1.902e-03 2.058e+01
 2.783e+01 1.292e+02 1.261e+03 1.072e-01 1.202e-01 2.249e-01 1.185e-01
 4.882e-01 6.111e-02], Class Predicted = 0
 X14 = [1.278e+01 1.649e+01 8.137e+01 5.025e+02 9.831e-02 5.234e-02 3.653e-02
 2.864e-02 1.590e-01 5.653e-02 2.368e-01 8.732e-01 1.471e+00 1.833e+01
 7.962e-03 5.612e-03 1.585e-02 8.662e-03 2.254e-02 1.906e-03 1.346e+01
 1.976e+01 8.567e+01 5.549e+02 1.296e-01 7.061e-02 1.039e-01 5.882e-02
 2.383e-01 6.410e-02], Class Predicted = 1
 X15 = [9.295e+00 1.390e+01 5.996e+01 2.578e+02 1.371e-01 1.225e-01 3.332e-02
 2.421e-02 2.197e-01 7.696e-02 3.538e-01 1.130e+00 2.388e+00 1.963e+01
 1.546e-02 2.540e-02 2.197e-02 1.580e-02 3.997e-02 3.901e-03 1.057e+01
 1.784e+01 6.784e+01 3.266e+02 1.850e-01 2.097e-01 9.996e-02 7.262e-02
 3.681e-01 8.982e-02], Class Predicted = 1
 X16 = [1.315e+01 1.534e+01 8.531e+01 5.389e+02 9.384e-02 8.498e-02 9.293e-02
 3.483e-02 1.822e-01 6.207e-02 2.710e-01 7.927e-01 1.819e+00 2.279e+01
 8.584e-03 2.017e-02 3.047e-02 9.536e-03 2.769e-02 3.479e-03 1.477e+01
 2.050e+01 9.767e+01 6.773e+02 1.478e-01 2.256e-01 3.009e-01 9.722e-02
 3.849e-01 8.633e-02], Class Predicted = 1
 X17 = [2.137e+01 1.510e+01 1.413e+02 1.386e+03 1.001e-01 1.515e-01 1.932e-01
 1.255e-01 1.973e-01 6.183e-02 3.414e-01 1.309e+00 2.407e+00 3.906e+01
 4.426e-03 2.675e-02 3.437e-02 1.343e-02 1.675e-02 4.367e-03 2.269e+01
 2.184e+01 1.521e+02 1.535e+03 1.192e-01 2.840e-01 4.024e-01 1.966e-01
 2.730e-01 8.666e-02], Class Predicted = 0
 X18 = [1.189e+01 1.736e+01 7.620e+01 4.356e+02 1.225e-01 7.210e-02 5.929e-02
 7.404e-02 2.015e-01 5.875e-02 6.412e-01 2.293e+00 4.021e+00 4.884e+01
 1.418e-02 1.489e-02 1.267e-02 1.910e-02 2.678e-02 3.002e-03 1.240e+01
 1.899e+01 7.946e+01 4.724e+02 1.359e-01 8.368e-02 7.153e-02 8.946e-02
 2.220e-01 6.033e-02], Class Predicted = 1
 X19 = [1.919e+01 1.594e+01 1.263e+02 1.157e+03 8.694e-02 1.185e-01 1.193e-01
 9.667e-02 1.741e-01 5.176e-02 1.000e+00 6.336e-01 6.971e+00 1.193e+02
 9.406e-03 3.055e-02 4.344e-02 2.794e-02 3.156e-02 3.362e-03 2.203e+01
 1.781e+01 1.466e+02 1.495e+03 1.124e-01 2.016e-01 2.264e-01 1.777e-01
 2.443e-01 6.251e-02], Class Predicted = 0
 X20 = [1.955e+01 2.877e+01 1.336e+02 1.207e+03 9.260e-02 2.063e-01 1.784e-01
 1.144e-01 1.893e-01 6.232e-02 8.426e-01 1.199e+00 7.158e+00 1.064e+02
 6.356e-03 4.765e-02 3.863e-02 1.519e-02 1.936e-02 5.252e-03 2.505e+01
 3.627e+01 1.786e+02 1.926e+03 1.281e-01 5.329e-01 4.251e-01 1.941e-01
 2.818e-01 1.005e-01], Class Predicted = 0
 X21 = [1.218e+01 2.052e+01 7.722e+01 4.587e+02 8.013e-02 4.038e-02 2.383e-02
 1.770e-02 1.739e-01 5.677e-02 1.924e-01 1.571e+00 1.183e+00 1.468e+01
 5.080e-03 6.098e-03 1.069e-02 6.797e-03 1.447e-02 1.532e-03 1.334e+01
 3.284e+01 8.458e+01 5.478e+02 1.123e-01 8.862e-02 1.145e-01 7.431e-02
 2.694e-01 6.878e-02], Class Predicted = 1
 X22 = [2.175e+01 2.099e+01 1.473e+02 1.491e+03 9.401e-02 1.961e-01 2.195e-01
 1.088e-01 1.721e-01 6.194e-02 1.167e+00 1.352e+00 8.867e+00 1.568e+02
 5.687e-03 4.960e-02 6.329e-02 1.561e-02 1.924e-02 4.614e-03 2.819e+01
 2.818e+01 1.959e+02 2.384e+03 1.272e-01 4.725e-01 5.807e-01 1.841e-01
 2.833e-01 8.858e-02], Class Predicted = 0
 X23 = [1.616e+01 2.154e+01 1.062e+02 8.098e+02 1.008e-01 1.284e-01 1.043e-01
 5.613e-02 2.160e-01 5.891e-02 4.332e-01 1.265e+00 2.844e+00 4.368e+01
 4.877e-03 1.952e-02 2.219e-02 9.231e-03 1.535e-02 2.373e-03 1.947e+01
 3.168e+01 1.297e+02 1.175e+03 1.395e-01 3.055e-01 2.992e-01 1.312e-01
 3.480e-01 7.619e-02], Class Predicted = 0
 X24 = [1.247e+01 1.731e+01 8.045e+01 4.801e+02 8.928e-02 7.630e-02 3.609e-02

2.369e-02 1.526e-01 6.046e-02 1.532e-01 7.810e-01 1.253e+00 1.191e+01
 3.796e-03 1.371e-02 1.346e-02 7.096e-03 1.536e-02 1.541e-03 1.406e+01
 2.434e+01 9.282e+01 6.073e+02 1.276e-01 2.506e-01 2.028e-01 1.053e-01
 3.035e-01 7.661e-02], Class Predicted = 1
 X25 = [1.187e+01 2.154e+01 7.683e+01 4.320e+02 6.613e-02 1.064e-01 8.777e-02
 2.386e-02 1.349e-01 6.612e-02 2.560e-01 1.554e+00 1.955e+00 2.024e+01
 6.854e-03 6.063e-02 6.663e-02 1.553e-02 2.354e-02 8.925e-03 1.279e+01
 2.818e+01 8.351e+01 5.072e+02 9.457e-02 3.399e-01 3.218e-01 8.750e-02
 2.305e-01 9.952e-02], Class Predicted = 1
 X26 = [1.275e+01 1.670e+01 8.251e+01 4.938e+02 1.125e-01 1.117e-01 3.880e-02
 2.995e-02 2.120e-01 6.623e-02 3.834e-01 1.003e+00 2.495e+00 2.862e+01
 7.509e-03 1.561e-02 1.977e-02 9.199e-03 1.805e-02 3.629e-03 1.445e+01
 2.174e+01 9.363e+01 6.241e+02 1.475e-01 1.979e-01 1.423e-01 8.045e-02
 3.071e-01 8.557e-02], Class Predicted = 1
 X27 = [1.441e+01 1.973e+01 9.603e+01 6.510e+02 8.757e-02 1.676e-01 1.362e-01
 6.602e-02 1.714e-01 7.192e-02 8.811e-01 1.770e+00 4.360e+00 7.711e+01
 7.762e-03 1.064e-01 9.960e-02 2.771e-02 4.077e-02 2.286e-02 1.577e+01
 2.213e+01 1.017e+02 7.673e+02 9.983e-02 2.472e-01 2.220e-01 1.021e-01
 2.272e-01 8.799e-02], Class Predicted = 1
 X28 = [1.801e+01 2.056e+01 1.184e+02 1.007e+03 1.001e-01 1.289e-01 1.170e-01
 7.762e-02 2.116e-01 6.077e-02 7.548e-01 1.288e+00 5.353e+00 8.974e+01
 7.997e-03 2.700e-02 3.737e-02 1.648e-02 2.897e-02 3.996e-03 2.153e+01
 2.606e+01 1.434e+02 1.426e+03 1.309e-01 2.327e-01 2.544e-01 1.489e-01
 3.251e-01 7.625e-02], Class Predicted = 0
 X29 = [1.154e+01 1.072e+01 7.373e+01 4.091e+02 8.597e-02 5.969e-02 1.367e-02
 8.907e-03 1.833e-01 6.100e-02 1.312e-01 3.602e-01 1.107e+00 9.438e+00
 4.124e-03 1.340e-02 1.003e-02 4.667e-03 2.032e-02 1.952e-03 1.234e+01
 1.287e+01 8.123e+01 4.678e+02 1.092e-01 1.626e-01 8.324e-02 4.715e-02
 3.390e-01 7.434e-02], Class Predicted = 1
 X30 = [1.115e+01 1.308e+01 7.087e+01 3.819e+02 9.754e-02 5.113e-02 1.982e-02
 1.786e-02 1.830e-01 6.105e-02 2.251e-01 7.815e-01 1.429e+00 1.548e+01
 9.019e-03 8.985e-03 1.196e-02 8.232e-03 2.388e-02 1.619e-03 1.199e+01
 1.630e+01 7.625e+01 4.408e+02 1.341e-01 8.971e-02 7.116e-02 5.506e-02
 2.859e-01 6.772e-02], Class Predicted = 1
 X31 = [2.051e+01 2.781e+01 1.344e+02 1.319e+03 9.159e-02 1.074e-01 1.554e-01
 8.340e-02 1.448e-01 5.592e-02 5.240e-01 1.189e+00 3.767e+00 7.001e+01
 5.020e-03 2.062e-02 3.457e-02 1.091e-02 1.298e-02 2.887e-03 2.447e+01
 3.738e+01 1.627e+02 1.872e+03 1.223e-01 2.761e-01 4.146e-01 1.563e-01
 2.437e-01 8.328e-02], Class Predicted = 0
 X32 = [1.057e+01 2.022e+01 7.015e+01 3.383e+02 9.073e-02 1.660e-01 2.280e-01
 5.941e-02 2.188e-01 8.450e-02 1.115e-01 1.231e+00 2.363e+00 7.228e+00
 8.499e-03 7.643e-02 1.535e-01 2.919e-02 1.617e-02 1.220e-02 1.085e+01
 2.282e+01 7.651e+01 3.519e+02 1.143e-01 3.619e-01 6.030e-01 1.465e-01
 2.597e-01 1.200e-01], Class Predicted = 1
 X33 = [1.460e+01 2.329e+01 9.397e+01 6.647e+02 8.682e-02 6.636e-02 8.390e-02
 5.271e-02 1.627e-01 5.416e-02 4.157e-01 1.627e+00 2.914e+00 3.301e+01
 8.312e-03 1.742e-02 3.389e-02 1.576e-02 1.740e-02 2.871e-03 1.579e+01
 3.171e+01 1.022e+02 7.582e+02 1.312e-01 1.581e-01 2.675e-01 1.359e-01
 2.477e-01 6.836e-02], Class Predicted = 1
 X34 = [1.048e+01 1.498e+01 6.749e+01 3.336e+02 9.816e-02 1.013e-01 6.335e-02
 2.218e-02 1.925e-01 6.915e-02 3.276e-01 1.127e+00 2.564e+00 2.077e+01
 7.364e-03 3.867e-02 5.263e-02 1.264e-02 2.161e-02 4.830e-03 1.213e+01
 2.157e+01 8.141e+01 4.404e+02 1.327e-01 2.996e-01 2.939e-01 9.310e-02
 3.020e-01 9.646e-02], Class Predicted = 1
 X35 = [1.464e+01 1.685e+01 9.421e+01 6.660e+02 8.641e-02 6.698e-02 5.192e-02
 2.791e-02 1.409e-01 5.355e-02 2.204e-01 1.006e+00 1.471e+00 1.998e+01
 3.535e-03 1.393e-02 1.800e-02 6.144e-03 1.254e-02 1.219e-03 1.646e+01
 2.544e+01 1.060e+02 8.310e+02 1.142e-01 2.070e-01 2.437e-01 7.828e-02
 2.455e-01 6.596e-02], Class Predicted = 1
 X36 = [1.267e+01 1.730e+01 8.125e+01 4.899e+02 1.028e-01 7.664e-02 3.193e-02
 2.107e-02 1.707e-01 5.984e-02 2.100e-01 9.505e-01 1.566e+00 1.761e+01
 6.809e-03 9.514e-03 1.329e-02 6.474e-03 2.057e-02 1.784e-03 1.371e+01
 2.110e+01 8.870e+01 5.744e+02 1.384e-01 1.212e-01 1.020e-01 5.602e-02
 2.688e-01 6.888e-02], Class Predicted = 1
 X37 = [1.496e+01 1.910e+01 9.703e+01 6.873e+02 8.992e-02 9.823e-02 5.940e-02
 4.819e-02 1.879e-01 5.852e-02 2.877e-01 9.480e-01 2.171e+00 2.487e+01
 5.332e-03 2.115e-02 1.536e-02 1.187e-02 1.522e-02 2.815e-03 1.625e+01
 2.619e+01 1.091e+02 8.098e+02 1.313e-01 3.030e-01 1.804e-01 1.489e-01
 2.962e-01 8.472e-02], Class Predicted = 1

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X38 = [2.110e+01 2.052e+01 1.381e+02 1.384e+03 9.684e-02 1.175e-01 1.572e-01
1.155e-01 1.554e-01 5.661e-02 6.643e-01 1.361e+00 4.542e+00 8.189e+01
5.467e-03 2.075e-02 3.185e-02 1.466e-02 1.029e-02 2.205e-03 2.568e+01
3.207e+01 1.682e+02 2.022e+03 1.368e-01 3.101e-01 4.399e-01 2.280e-01
2.268e-01 7.425e-02], Class Predicted = 0
X39 = [1.902e+01 2.459e+01 1.220e+02 1.076e+03 9.029e-02 1.206e-01 1.468e-01
8.271e-02 1.953e-01 5.629e-02 5.495e-01 6.636e-01 3.055e+00 5.765e+01
3.872e-03 1.842e-02 3.710e-02 1.200e-02 1.964e-02 3.337e-03 2.456e+01
3.041e+01 1.529e+02 1.623e+03 1.249e-01 3.206e-01 5.755e-01 1.956e-01
3.956e-01 9.288e-02], Class Predicted = 0
X40 = [1.180e+01 1.658e+01 7.899e+01 4.320e+02 1.091e-01 1.700e-01 1.659e-01
7.415e-02 2.678e-01 7.371e-02 3.197e-01 1.426e+00 2.281e+00 2.472e+01
5.427e-03 3.633e-02 4.649e-02 1.843e-02 5.628e-02 4.635e-03 1.374e+01
2.638e+01 9.193e+01 5.917e+02 1.385e-01 4.092e-01 4.504e-01 1.865e-01
5.774e-01 1.030e-01], Class Predicted = 1
X41 = [1.426e+01 1.965e+01 9.783e+01 6.299e+02 7.837e-02 2.233e-01 3.003e-01
7.798e-02 1.704e-01 7.769e-02 3.628e-01 1.490e+00 3.399e+00 2.925e+01
5.298e-03 7.446e-02 1.435e-01 2.292e-02 2.566e-02 1.298e-02 1.530e+01
2.373e+01 1.070e+02 7.090e+02 8.949e-02 4.193e-01 6.783e-01 1.505e-01
2.398e-01 1.082e-01], Class Predicted = 1
X42 = [1.760e+01 2.333e+01 1.190e+02 9.805e+02 9.289e-02 2.004e-01 2.136e-01
1.002e-01 1.696e-01 7.369e-02 9.289e-01 1.465e+00 5.801e+00 1.049e+02
6.766e-03 7.025e-02 6.591e-02 2.311e-02 1.673e-02 1.130e-02 2.157e+01
2.887e+01 1.436e+02 1.437e+03 1.207e-01 4.785e-01 5.165e-01 1.996e-01
2.301e-01 1.224e-01], Class Predicted = 0
X43 = [8.618e+00 1.179e+01 5.434e+01 2.245e+02 9.752e-02 5.272e-02 2.061e-02
7.799e-03 1.683e-01 7.187e-02 1.559e-01 5.796e-01 1.046e+00 8.322e+00
1.011e-02 1.055e-02 1.981e-02 5.742e-03 2.090e-02 2.788e-03 9.507e+00
1.540e+01 5.990e+01 2.749e+02 1.733e-01 1.239e-01 1.168e-01 4.419e-02
3.220e-01 9.026e-02], Class Predicted = 1
X44 = [1.419e+01 2.381e+01 9.287e+01 6.107e+02 9.463e-02 1.306e-01 1.115e-01
6.462e-02 2.235e-01 6.433e-02 4.207e-01 1.845e+00 3.534e+00 3.100e+01
1.088e-02 3.710e-02 3.688e-02 1.627e-02 4.499e-02 4.768e-03 1.686e+01
3.485e+01 1.150e+02 8.113e+02 1.559e-01 4.059e-01 3.744e-01 1.772e-01
4.724e-01 1.026e-01], Class Predicted = 0
X45 = [2.016e+01 1.966e+01 1.311e+02 1.274e+03 8.020e-02 8.564e-02 1.155e-01
7.726e-02 1.928e-01 5.096e-02 5.925e-01 6.863e-01 3.868e+00 7.485e+01
4.536e-03 1.376e-02 2.645e-02 1.247e-02 2.193e-02 1.589e-03 2.306e+01
2.303e+01 1.502e+02 1.657e+03 1.054e-01 1.537e-01 2.606e-01 1.425e-01
3.055e-01 5.933e-02], Class Predicted = 0
X46 = [1.216e+01 1.803e+01 7.829e+01 4.553e+02 9.087e-02 7.838e-02 2.916e-02
1.527e-02 1.464e-01 6.284e-02 2.194e-01 1.190e+00 1.678e+00 1.626e+01
4.911e-03 1.666e-02 1.397e-02 5.161e-03 1.454e-02 1.858e-03 1.334e+01
2.787e+01 8.883e+01 5.474e+02 1.208e-01 2.279e-01 1.620e-01 5.690e-02
2.406e-01 7.729e-02], Class Predicted = 1
X47 = [1.283e+01 2.233e+01 8.526e+01 5.032e+02 1.088e-01 1.799e-01 1.695e-01
6.861e-02 2.123e-01 7.254e-02 3.061e-01 1.069e+00 2.257e+00 2.513e+01
6.983e-03 3.858e-02 4.683e-02 1.499e-02 1.680e-02 5.617e-03 1.520e+01
3.015e+01 1.053e+02 7.060e+02 1.777e-01 5.343e-01 6.282e-01 1.977e-01
3.407e-01 1.243e-01], Class Predicted = 1
X48 = [1.570e+01 2.031e+01 1.012e+02 7.666e+02 9.597e-02 8.799e-02 6.593e-02
5.189e-02 1.618e-01 5.549e-02 3.699e-01 1.150e+00 2.406e+00 4.098e+01
4.626e-03 2.263e-02 1.954e-02 9.767e-03 1.547e-02 2.430e-03 2.011e+01
3.282e+01 1.293e+02 1.269e+03 1.414e-01 3.547e-01 2.902e-01 1.541e-01
3.437e-01 8.631e-02], Class Predicted = 0
X49 = [1.969e+01 2.125e+01 1.300e+02 1.203e+03 1.096e-01 1.599e-01 1.974e-01
1.279e-01 2.069e-01 5.999e-02 7.456e-01 7.869e-01 4.585e+00 9.403e+01
6.150e-03 4.006e-02 3.832e-02 2.058e-02 2.250e-02 4.571e-03 2.357e+01
2.553e+01 1.525e+02 1.709e+03 1.444e-01 4.245e-01 4.504e-01 2.430e-01
3.613e-01 8.758e-02], Class Predicted = 0
X50 = [2.161e+01 2.228e+01 1.444e+02 1.407e+03 1.167e-01 2.087e-01 2.810e-01
1.562e-01 2.162e-01 6.606e-02 6.242e-01 9.209e-01 4.158e+00 8.099e+01
5.215e-03 3.726e-02 4.718e-02 1.288e-02 2.045e-02 4.028e-03 2.623e+01
2.874e+01 1.720e+02 2.081e+03 1.502e-01 5.717e-01 7.053e-01 2.422e-01
3.828e-01 1.007e-01], Class Predicted = 0
X51 = [1.286e+01 1.800e+01 8.319e+01 5.063e+02 9.934e-02 9.546e-02 3.889e-02
2.315e-02 1.718e-01 5.997e-02 2.655e-01 1.095e+00 1.778e+00 2.035e+01
5.293e-03 1.661e-02 2.071e-02 8.179e-03 1.748e-02 2.848e-03 1.424e+01
2.482e+01 9.188e+01 6.221e+02 1.289e-01 2.141e-01 1.731e-01 7.926e-02

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2.779e-01 7.918e-02], Class Predicted = 1
 X52 = [1.940e+01 1.818e+01 1.272e+02 1.145e+03 1.037e-01 1.442e-01 1.626e-01
 9.464e-02 1.893e-01 5.892e-02 4.709e-01 9.951e-01 2.903e+00 5.316e+01
 5.654e-03 2.199e-02 3.059e-02 1.499e-02 1.623e-02 1.965e-03 2.379e+01
 2.865e+01 1.524e+02 1.628e+03 1.518e-01 3.749e-01 4.316e-01 2.252e-01
 3.590e-01 7.787e-02], Class Predicted = 0
 X53 = [2.044e+01 2.178e+01 1.338e+02 1.293e+03 9.150e-02 1.131e-01 9.799e-02
 7.785e-02 1.618e-01 5.557e-02 5.781e-01 9.168e-01 4.218e+00 7.244e+01
 6.208e-03 1.906e-02 2.375e-02 1.461e-02 1.445e-02 1.906e-03 2.431e+01
 2.637e+01 1.612e+02 1.780e+03 1.327e-01 2.376e-01 2.702e-01 1.765e-01
 2.609e-01 6.735e-02], Class Predicted = 0
 X54 = [1.454e+01 2.754e+01 9.673e+01 6.588e+02 1.139e-01 1.595e-01 1.639e-01
 7.364e-02 2.303e-01 7.077e-02 3.700e-01 1.033e+00 2.879e+00 3.255e+01
 5.607e-03 4.240e-02 4.741e-02 1.090e-02 1.857e-02 5.466e-03 1.746e+01
 3.713e+01 1.241e+02 9.432e+02 1.678e-01 6.577e-01 7.026e-01 1.712e-01
 4.218e-01 1.341e-01], Class Predicted = 0
 X55 = [1.458e+01 1.366e+01 9.429e+01 6.588e+02 9.832e-02 8.918e-02 8.222e-02
 4.349e-02 1.739e-01 5.640e-02 4.165e-01 6.237e-01 2.561e+00 3.711e+01
 4.953e-03 1.812e-02 3.035e-02 8.648e-03 1.539e-02 2.281e-03 1.676e+01
 1.724e+01 1.085e+02 8.620e+02 1.223e-01 1.928e-01 2.492e-01 9.186e-02
 2.626e-01 7.048e-02], Class Predicted = 1
 X56 = [1.799e+01 1.038e+01 1.228e+02 1.001e+03 1.184e-01 2.776e-01 3.001e-01
 1.471e-01 2.419e-01 7.871e-02 1.095e+00 9.053e-01 8.589e+00 1.534e+02
 6.399e-03 4.904e-02 5.373e-02 1.587e-02 3.003e-02 6.193e-03 2.538e+01
 1.733e+01 1.846e+02 2.019e+03 1.622e-01 6.656e-01 7.119e-01 2.654e-01
 4.601e-01 1.189e-01], Class Predicted = 0
 X57 = [1.243e+01 1.700e+01 7.860e+01 4.773e+02 7.557e-02 3.454e-02 1.342e-02
 1.699e-02 1.472e-01 5.561e-02 3.778e-01 2.200e+00 2.487e+00 3.116e+01
 7.357e-03 1.079e-02 9.959e-03 1.120e-02 3.433e-02 2.961e-03 1.290e+01
 2.021e+01 8.176e+01 5.159e+02 8.409e-02 4.712e-02 2.237e-02 2.832e-02
 1.901e-01 5.932e-02], Class Predicted = 1
 X58 = [1.429e+01 1.682e+01 9.030e+01 6.326e+02 6.429e-02 2.675e-02 7.250e-03
 6.250e-03 1.508e-01 5.376e-02 1.302e-01 7.198e-01 8.439e-01 1.077e+01
 3.492e-03 3.710e-03 4.826e-03 3.608e-03 1.536e-02 1.381e-03 1.491e+01
 2.065e+01 9.444e+01 6.846e+02 8.567e-02 5.036e-02 3.866e-02 3.333e-02
 2.458e-01 6.120e-02], Class Predicted = 1
 X59 = [1.607e+01 1.965e+01 1.041e+02 8.177e+02 9.168e-02 8.424e-02 9.769e-02
 6.638e-02 1.798e-01 5.391e-02 7.474e-01 1.016e+00 5.029e+00 7.925e+01
 1.082e-02 2.203e-02 3.500e-02 1.809e-02 1.550e-02 1.948e-03 1.977e+01
 2.456e+01 1.288e+02 1.223e+03 1.500e-01 2.045e-01 2.829e-01 1.520e-01
 2.650e-01 6.387e-02], Class Predicted = 0
 X60 = [1.289e+01 1.411e+01 8.495e+01 5.122e+02 8.760e-02 1.346e-01 1.374e-01
 3.980e-02 1.596e-01 6.409e-02 2.025e-01 4.402e-01 2.393e+00 1.635e+01
 5.501e-03 5.592e-02 8.158e-02 1.370e-02 1.266e-02 7.555e-03 1.439e+01
 1.770e+01 1.050e+02 6.391e+02 1.254e-01 5.849e-01 7.727e-01 1.561e-01
 2.639e-01 1.178e-01], Class Predicted = 1
 X61 = [1.272e+01 1.767e+01 8.098e+01 5.013e+02 7.896e-02 4.522e-02 1.402e-02
 1.835e-02 1.459e-01 5.544e-02 2.954e-01 8.836e-01 2.109e+00 2.324e+01
 7.337e-03 1.174e-02 5.383e-03 5.623e-03 1.940e-02 1.180e-03 1.382e+01
 2.096e+01 8.887e+01 5.868e+02 1.068e-01 9.605e-02 3.469e-02 3.612e-02
 2.165e-01 6.025e-02], Class Predicted = 1
 X62 = [1.585e+01 2.395e+01 1.037e+02 7.827e+02 8.401e-02 1.002e-01 9.938e-02
 5.364e-02 1.847e-01 5.338e-02 4.033e-01 1.078e+00 2.903e+00 3.658e+01
 9.769e-03 3.126e-02 5.051e-02 1.992e-02 2.981e-02 3.002e-03 1.684e+01
 2.766e+01 1.120e+02 8.765e+02 1.131e-01 1.924e-01 2.322e-01 1.119e-01
 2.809e-01 6.287e-02], Class Predicted = 0
 X63 = [2.116e+01 2.304e+01 1.372e+02 1.404e+03 9.428e-02 1.022e-01 1.097e-01
 8.632e-02 1.769e-01 5.278e-02 6.917e-01 1.127e+00 4.303e+00 9.399e+01
 4.728e-03 1.259e-02 1.715e-02 1.038e-02 1.083e-02 1.987e-03 2.917e+01
 3.559e+01 1.880e+02 2.615e+03 1.401e-01 2.600e-01 3.155e-01 2.009e-01
 2.822e-01 7.526e-02], Class Predicted = 0
 X64 = [1.270e+01 1.217e+01 8.088e+01 4.950e+02 8.785e-02 5.794e-02 2.360e-02
 2.402e-02 1.583e-01 6.275e-02 2.253e-01 6.457e-01 1.527e+00 1.737e+01
 6.131e-03 1.263e-02 9.075e-03 8.231e-03 1.713e-02 4.414e-03 1.365e+01
 1.692e+01 8.812e+01 5.669e+02 1.314e-01 1.607e-01 9.385e-02 8.224e-02
 2.775e-01 9.464e-02], Class Predicted = 1
 X65 = [1.223e+01 1.956e+01 7.854e+01 4.610e+02 9.586e-02 8.087e-02 4.187e-02
 4.107e-02 1.979e-01 6.013e-02 3.534e-01 1.326e+00 2.308e+00 2.724e+01
 7.514e-03 1.779e-02 1.401e-02 1.140e-02 1.503e-02 3.338e-03 1.444e+01

2.836e+01 9.215e+01 6.384e+02 1.429e-01 2.042e-01 1.377e-01 1.080e-01
 2.668e-01 8.174e-02], Class Predicted = 1
 X66 = [1.096e+01 1.762e+01 7.079e+01 3.656e+02 9.687e-02 9.752e-02 5.263e-02
 2.788e-02 1.619e-01 6.408e-02 1.507e-01 1.583e+00 1.165e+00 1.009e+01
 9.501e-03 3.378e-02 4.401e-02 1.346e-02 1.322e-02 3.534e-03 1.162e+01
 2.651e+01 7.643e+01 4.075e+02 1.428e-01 2.510e-01 2.123e-01 9.861e-02
 2.289e-01 8.278e-02], Class Predicted = 1
 X67 = [8.950e+00 1.576e+01 5.874e+01 2.452e+02 9.462e-02 1.243e-01 9.263e-02
 2.308e-02 1.305e-01 7.163e-02 3.132e-01 9.789e-01 3.280e+00 1.694e+01
 1.835e-02 6.760e-02 9.263e-02 2.308e-02 2.384e-02 5.601e-03 9.414e+00
 1.707e+01 6.334e+01 2.700e+02 1.179e-01 1.879e-01 1.544e-01 3.846e-02
 1.652e-01 7.722e-02], Class Predicted = 1
 X68 = [1.573e+01 1.128e+01 1.028e+02 7.472e+02 1.043e-01 1.299e-01 1.191e-01
 6.211e-02 1.784e-01 6.259e-02 1.630e-01 3.871e-01 1.143e+00 1.387e+01
 6.034e-03 1.820e-02 3.336e-02 1.067e-02 1.175e-02 2.256e-03 1.701e+01
 1.420e+01 1.125e+02 8.543e+02 1.541e-01 2.979e-01 4.004e-01 1.452e-01
 2.557e-01 8.181e-02], Class Predicted = 1
 X69 = [1.311e+01 2.254e+01 8.702e+01 5.294e+02 1.002e-01 1.483e-01 8.705e-02
 5.102e-02 1.850e-01 7.310e-02 1.931e-01 9.223e-01 1.491e+00 1.509e+01
 5.251e-03 3.041e-02 2.526e-02 8.304e-03 2.514e-02 4.198e-03 1.455e+01
 2.916e+01 9.948e+01 6.393e+02 1.349e-01 4.402e-01 3.162e-01 1.126e-01
 4.128e-01 1.076e-01], Class Predicted = 1
 X70 = [1.361e+01 2.498e+01 8.805e+01 5.827e+02 9.488e-02 8.511e-02 8.625e-02
 4.489e-02 1.609e-01 5.871e-02 4.565e-01 1.290e+00 2.861e+00 4.314e+01
 5.872e-03 1.488e-02 2.647e-02 9.921e-03 1.465e-02 2.355e-03 1.699e+01
 3.527e+01 1.086e+02 9.065e+02 1.265e-01 1.943e-01 3.169e-01 1.184e-01
 2.651e-01 7.397e-02], Class Predicted = 1
 X71 = [1.351e+01 1.889e+01 8.810e+01 5.581e+02 1.059e-01 1.147e-01 8.580e-02
 5.381e-02 1.806e-01 6.079e-02 2.136e-01 1.332e+00 1.513e+00 1.929e+01
 5.442e-03 1.957e-02 3.304e-02 1.367e-02 1.315e-02 2.464e-03 1.480e+01
 2.720e+01 9.733e+01 6.752e+02 1.428e-01 2.570e-01 3.438e-01 1.453e-01
 2.666e-01 7.686e-02], Class Predicted = 1
 X72 = [1.225e+01 2.244e+01 7.818e+01 4.665e+02 8.192e-02 5.200e-02 1.714e-02
 1.261e-02 1.544e-01 5.976e-02 2.239e-01 1.139e+00 1.577e+00 1.804e+01
 5.096e-03 1.205e-02 9.410e-03 4.551e-03 1.608e-02 2.399e-03 1.417e+01
 3.199e+01 9.274e+01 6.229e+02 1.256e-01 1.804e-01 1.230e-01 6.335e-02
 3.100e-01 8.203e-02], Class Predicted = 1
 X73 = [1.674e+01 2.159e+01 1.101e+02 8.695e+02 9.610e-02 1.336e-01 1.348e-01
 6.018e-02 1.896e-01 5.656e-02 4.615e-01 9.197e-01 3.008e+00 4.519e+01
 5.776e-03 2.499e-02 3.695e-02 1.195e-02 2.789e-02 2.665e-03 2.001e+01
 2.902e+01 1.335e+02 1.229e+03 1.563e-01 3.835e-01 5.409e-01 1.813e-01
 4.863e-01 8.633e-02], Class Predicted = 0
 X74 = [1.945e+01 1.933e+01 1.265e+02 1.169e+03 1.035e-01 1.188e-01 1.379e-01
 8.591e-02 1.776e-01 5.647e-02 5.959e-01 6.342e-01 3.797e+00 7.100e+01
 4.649e-03 1.800e-02 2.749e-02 1.267e-02 1.365e-02 2.550e-03 2.570e+01
 2.457e+01 1.631e+02 1.972e+03 1.497e-01 3.161e-01 4.317e-01 1.999e-01
 3.379e-01 8.950e-02], Class Predicted = 0
 X75 = [1.727e+01 2.542e+01 1.124e+02 9.288e+02 8.331e-02 1.109e-01 1.204e-01
 5.736e-02 1.467e-01 5.407e-02 5.100e-01 1.679e+00 3.283e+00 5.838e+01
 8.109e-03 4.308e-02 4.942e-02 1.742e-02 1.594e-02 3.739e-03 2.038e+01
 3.546e+01 1.328e+02 1.284e+03 1.436e-01 4.122e-01 5.036e-01 1.739e-01
 2.500e-01 7.944e-02], Class Predicted = 0
 X76 = [2.064e+01 1.735e+01 1.348e+02 1.335e+03 9.446e-02 1.076e-01 1.527e-01
 8.941e-02 1.571e-01 5.478e-02 6.137e-01 6.575e-01 4.119e+00 7.702e+01
 6.211e-03 1.895e-02 2.681e-02 1.232e-02 1.276e-02 1.711e-03 2.537e+01
 2.317e+01 1.668e+02 1.946e+03 1.562e-01 3.055e-01 4.159e-01 2.112e-01
 2.689e-01 7.055e-02], Class Predicted = 0
 X77 = [8.598e+00 2.098e+01 5.466e+01 2.218e+02 1.243e-01 8.963e-02 3.000e-02
 9.259e-03 1.828e-01 6.757e-02 3.582e-01 2.067e+00 2.493e+00 1.839e+01
 1.193e-02 3.162e-02 3.000e-02 9.259e-03 3.357e-02 3.048e-03 9.565e+00
 2.704e+01 6.206e+01 2.739e+02 1.639e-01 1.698e-01 9.001e-02 2.778e-02
 2.972e-01 7.712e-02], Class Predicted = 1
 X78 = [1.160e+01 2.449e+01 7.423e+01 4.172e+02 7.474e-02 5.688e-02 1.974e-02
 1.313e-02 1.935e-01 5.878e-02 2.512e-01 1.786e+00 1.961e+00 1.821e+01
 6.122e-03 2.337e-02 1.596e-02 6.998e-03 3.194e-02 2.211e-03 1.244e+01
 3.162e+01 8.139e+01 4.765e+02 9.545e-02 1.361e-01 7.239e-02 4.815e-02
 3.244e-01 6.745e-02], Class Predicted = 1
 X79 = [1.218e+01 1.408e+01 7.725e+01 4.614e+02 7.734e-02 3.212e-02 1.123e-02
 5.051e-03 1.673e-01 5.649e-02 2.113e-01 5.996e-01 1.438e+00 1.582e+01

5.343e-03 5.767e-03 1.123e-02 5.051e-03 1.977e-02 9.502e-04 1.285e+01
 1.647e+01 8.160e+01 5.131e+02 1.001e-01 5.332e-02 4.116e-02 1.852e-02
 2.293e-01 6.037e-02], Class Predicted = 1
 X80 = [1.603e+01 1.551e+01 1.058e+02 7.932e+02 9.491e-02 1.371e-01 1.204e-01
 7.041e-02 1.782e-01 5.976e-02 3.371e-01 7.476e-01 2.629e+00 3.327e+01
 5.839e-03 3.245e-02 3.715e-02 1.459e-02 1.467e-02 3.121e-03 1.876e+01
 2.198e+01 1.243e+02 1.070e+03 1.435e-01 4.478e-01 4.956e-01 1.981e-01
 3.019e-01 9.124e-02], Class Predicted = 0
 X81 = [9.787e+00 1.994e+01 6.211e+01 2.945e+02 1.024e-01 5.301e-02 6.829e-03
 7.937e-03 1.350e-01 6.890e-02 3.350e-01 2.043e+00 2.132e+00 2.005e+01
 1.113e-02 1.463e-02 5.308e-03 5.250e-03 1.801e-02 5.667e-03 1.092e+01
 2.629e+01 6.881e+01 3.661e+02 1.316e-01 9.473e-02 2.049e-02 2.381e-02
 1.934e-01 8.988e-02], Class Predicted = 1
 X82 = [1.791e+01 2.102e+01 1.244e+02 9.940e+02 1.230e-01 2.576e-01 3.189e-01
 1.198e-01 2.113e-01 7.115e-02 4.030e-01 7.747e-01 3.123e+00 4.151e+01
 7.159e-03 3.718e-02 6.165e-02 1.051e-02 1.591e-02 5.099e-03 2.080e+01
 2.778e+01 1.496e+02 1.304e+03 1.873e-01 5.917e-01 9.034e-01 1.964e-01
 3.245e-01 1.198e-01], Class Predicted = 0
 X83 = [1.626e+01 2.188e+01 1.075e+02 8.268e+02 1.165e-01 1.283e-01 1.799e-01
 7.981e-02 1.869e-01 6.532e-02 5.706e-01 1.457e+00 2.961e+00 5.772e+01
 1.056e-02 3.756e-02 5.839e-02 1.186e-02 4.022e-02 6.187e-03 1.773e+01
 2.521e+01 1.137e+02 9.752e+02 1.426e-01 2.116e-01 3.344e-01 1.047e-01
 2.736e-01 7.953e-02], Class Predicted = 0
 X84 = [1.450e+01 1.089e+01 9.428e+01 6.407e+02 1.101e-01 1.099e-01 8.842e-02
 5.778e-02 1.856e-01 6.402e-02 2.929e-01 8.570e-01 1.928e+00 2.419e+01
 3.818e-03 1.276e-02 2.882e-02 1.200e-02 1.910e-02 2.808e-03 1.570e+01
 1.598e+01 1.028e+02 7.455e+02 1.313e-01 1.788e-01 2.560e-01 1.221e-01
 2.889e-01 8.006e-02], Class Predicted = 1
 X85 = [1.561e+01 1.938e+01 1.000e+02 7.586e+02 7.840e-02 5.616e-02 4.209e-02
 2.847e-02 1.547e-01 5.443e-02 2.298e-01 9.988e-01 1.534e+00 2.218e+01
 2.826e-03 9.105e-03 1.311e-02 5.174e-03 1.013e-02 1.345e-03 1.791e+01
 3.167e+01 1.159e+02 9.886e+02 1.084e-01 1.807e-01 2.260e-01 8.568e-02
 2.683e-01 6.829e-02], Class Predicted = 0
 X86 = [1.371e+01 2.083e+01 9.020e+01 5.779e+02 1.189e-01 1.645e-01 9.366e-02
 5.985e-02 2.196e-01 7.451e-02 5.835e-01 1.377e+00 3.856e+00 5.096e+01
 8.805e-03 3.029e-02 2.488e-02 1.448e-02 1.486e-02 5.412e-03 1.706e+01
 2.814e+01 1.106e+02 8.970e+02 1.654e-01 3.682e-01 2.678e-01 1.556e-01
 3.196e-01 1.151e-01], Class Predicted = 1
 X87 = [1.222e+01 2.004e+01 7.947e+01 4.531e+02 1.096e-01 1.152e-01 8.175e-02
 2.166e-02 2.124e-01 6.894e-02 1.811e-01 7.959e-01 9.857e-01 1.258e+01
 6.272e-03 2.198e-02 3.966e-02 9.894e-03 1.320e-02 3.813e-03 1.316e+01
 2.417e+01 8.513e+01 5.153e+02 1.402e-01 2.315e-01 3.535e-01 8.088e-02
 2.709e-01 8.839e-02], Class Predicted = 1
 X88 = [1.295e+01 1.602e+01 8.314e+01 5.137e+02 1.005e-01 7.943e-02 6.155e-02
 3.370e-02 1.730e-01 6.470e-02 2.094e-01 7.636e-01 1.231e+00 1.767e+01
 8.725e-03 2.003e-02 2.335e-02 1.132e-02 2.625e-02 4.726e-03 1.374e+01
 1.993e+01 8.881e+01 5.854e+02 1.483e-01 2.068e-01 2.241e-01 1.056e-01
 3.380e-01 9.584e-02], Class Predicted = 1
 X89 = [1.328e+01 1.372e+01 8.579e+01 5.418e+02 8.363e-02 8.575e-02 5.077e-02
 2.864e-02 1.617e-01 5.594e-02 1.833e-01 5.308e-01 1.592e+00 1.526e+01
 4.271e-03 2.073e-02 2.828e-02 8.468e-03 1.461e-02 2.613e-03 1.424e+01
 1.737e+01 9.659e+01 6.237e+02 1.166e-01 2.685e-01 2.866e-01 9.173e-02
 2.736e-01 7.320e-02], Class Predicted = 1
 X90 = [1.134e+01 1.861e+01 7.276e+01 3.912e+02 1.049e-01 8.499e-02 4.302e-02
 2.594e-02 1.927e-01 6.211e-02 2.430e-01 1.010e+00 1.491e+00 1.819e+01
 8.577e-03 1.641e-02 2.099e-02 1.107e-02 2.434e-02 1.217e-03 1.247e+01
 2.303e+01 7.915e+01 4.786e+02 1.483e-01 1.574e-01 1.624e-01 8.542e-02
 3.060e-01 6.783e-02], Class Predicted = 1
 X91 = [9.405e+00 2.170e+01 5.960e+01 2.712e+02 1.044e-01 6.159e-02 2.047e-02
 1.257e-02 2.025e-01 6.601e-02 4.302e-01 2.878e+00 2.759e+00 2.517e+01
 1.474e-02 1.674e-02 1.367e-02 8.674e-03 3.044e-02 4.590e-03 1.085e+01
 3.124e+01 6.873e+01 3.594e+02 1.526e-01 1.193e-01 6.141e-02 3.770e-02
 2.872e-01 8.304e-02], Class Predicted = 1
 X92 = [9.029e+00 1.733e+01 5.879e+01 2.505e+02 1.066e-01 1.413e-01 3.130e-01
 4.375e-02 2.111e-01 8.046e-02 3.274e-01 1.194e+00 1.885e+00 1.767e+01
 9.549e-03 8.606e-02 3.038e-01 3.322e-02 4.197e-02 9.559e-03 1.031e+01
 2.265e+01 6.550e+01 3.247e+02 1.482e-01 4.365e-01 1.252e+00 1.750e-01
 4.228e-01 1.175e-01], Class Predicted = 1
 X93 = [1.368e+01 1.633e+01 8.776e+01 5.755e+02 9.277e-02 7.255e-02 1.752e-02

1.880e-02 1.631e-01 6.155e-02 2.047e-01 4.801e-01 1.373e+00 1.725e+01
 3.828e-03 7.228e-03 7.078e-03 5.077e-03 1.054e-02 1.697e-03 1.585e+01
 2.020e+01 1.016e+02 7.734e+02 1.264e-01 1.564e-01 1.206e-01 8.704e-02
 2.806e-01 7.782e-02], Class Predicted = 1
 X94 = [1.921e+01 1.857e+01 1.255e+02 1.152e+03 1.053e-01 1.267e-01 1.323e-01
 8.994e-02 1.917e-01 5.961e-02 7.275e-01 1.193e+00 4.837e+00 1.025e+02
 6.458e-03 2.306e-02 2.945e-02 1.538e-02 1.852e-02 2.608e-03 2.614e+01
 2.814e+01 1.701e+02 2.145e+03 1.624e-01 3.511e-01 3.879e-01 2.091e-01
 3.537e-01 8.294e-02], Class Predicted = 0
 X95 = [1.230e+01 1.590e+01 7.883e+01 4.637e+02 8.080e-02 7.253e-02 3.844e-02
 1.654e-02 1.667e-01 5.474e-02 2.382e-01 8.355e-01 1.687e+00 1.832e+01
 5.996e-03 2.212e-02 2.117e-02 6.433e-03 2.025e-02 1.725e-03 1.335e+01
 1.959e+01 8.665e+01 5.467e+02 1.096e-01 1.650e-01 1.423e-01 4.815e-02
 2.482e-01 6.306e-02], Class Predicted = 1
 X96 = [9.173e+00 1.386e+01 5.920e+01 2.609e+02 7.721e-02 8.751e-02 5.988e-02
 2.180e-02 2.341e-01 6.963e-02 4.098e-01 2.265e+00 2.608e+00 2.352e+01
 8.738e-03 3.938e-02 4.312e-02 1.560e-02 4.192e-02 5.822e-03 1.001e+01
 1.923e+01 6.559e+01 3.101e+02 9.836e-02 1.678e-01 1.397e-01 5.087e-02
 3.282e-01 8.490e-02], Class Predicted = 1
 X97 = [1.122e+01 3.381e+01 7.079e+01 3.868e+02 7.780e-02 3.574e-02 4.967e-03
 6.434e-03 1.845e-01 5.828e-02 2.239e-01 1.647e+00 1.489e+00 1.546e+01
 4.359e-03 6.813e-03 3.223e-03 3.419e-03 1.916e-02 2.534e-03 1.236e+01
 4.178e+01 7.844e+01 4.709e+02 9.994e-02 6.885e-02 2.318e-02 3.002e-02
 2.911e-01 7.307e-02], Class Predicted = 1
 X98 = [8.571e+00 1.310e+01 5.453e+01 2.213e+02 1.036e-01 7.632e-02 2.565e-02
 1.510e-02 1.678e-01 7.126e-02 1.267e-01 6.793e-01 1.069e+00 7.254e+00
 7.897e-03 1.762e-02 1.801e-02 7.320e-03 1.592e-02 3.925e-03 9.473e+00
 1.845e+01 6.330e+01 2.756e+02 1.641e-01 2.235e-01 1.754e-01 8.512e-02
 2.983e-01 1.049e-01], Class Predicted = 1
 X99 = [1.303e+01 1.842e+01 8.261e+01 5.238e+02 8.983e-02 3.766e-02 2.562e-02
 2.923e-02 1.467e-01 5.863e-02 1.839e-01 2.342e+00 1.170e+00 1.416e+01
 4.352e-03 4.899e-03 1.343e-02 1.164e-02 2.671e-02 1.777e-03 1.330e+01
 2.281e+01 8.446e+01 5.459e+02 9.701e-02 4.619e-02 4.833e-02 5.013e-02
 1.987e-01 6.169e-02], Class Predicted = 1
 X100 = [1.708e+01 2.715e+01 1.112e+02 9.309e+02 9.898e-02 1.110e-01 1.007e-01
 6.431e-02 1.793e-01 6.281e-02 9.291e-01 1.152e+00 6.051e+00 1.152e+02
 8.740e-03 2.219e-02 2.721e-02 1.458e-02 2.045e-02 4.417e-03 2.296e+01
 3.449e+01 1.521e+02 1.648e+03 1.600e-01 2.444e-01 2.639e-01 1.555e-01
 3.010e-01 9.060e-02], Class Predicted = 0
 X101 = [1.276e+01 1.337e+01 8.229e+01 5.041e+02 8.794e-02 7.948e-02 4.052e-02
 2.548e-02 1.601e-01 6.140e-02 3.265e-01 6.594e-01 2.346e+00 2.518e+01
 6.494e-03 2.768e-02 3.137e-02 1.069e-02 1.731e-02 4.392e-03 1.419e+01
 1.640e+01 9.204e+01 6.188e+02 1.194e-01 2.208e-01 1.769e-01 8.411e-02
 2.564e-01 8.253e-02], Class Predicted = 1
 X102 = [1.218e+01 1.784e+01 7.779e+01 4.511e+02 1.045e-01 7.057e-02 2.490e-02
 2.941e-02 1.900e-01 6.635e-02 3.661e-01 1.511e+00 2.410e+00 2.444e+01
 5.433e-03 1.179e-02 1.131e-02 1.519e-02 2.220e-02 3.408e-03 1.283e+01
 2.092e+01 8.214e+01 4.952e+02 1.140e-01 9.358e-02 4.980e-02 5.882e-02
 2.227e-01 7.376e-02], Class Predicted = 1
 X103 = [1.080e+01 2.198e+01 6.879e+01 3.599e+02 8.801e-02 5.743e-02 3.614e-02
 1.404e-02 2.016e-01 5.977e-02 3.077e-01 1.621e+00 2.240e+00 2.020e+01
 6.543e-03 2.148e-02 2.991e-02 1.045e-02 1.844e-02 2.690e-03 1.276e+01
 3.204e+01 8.369e+01 4.895e+02 1.303e-01 1.696e-01 1.927e-01 7.485e-02
 2.965e-01 7.662e-02], Class Predicted = 1
 X104 = [1.189e+01 1.835e+01 7.732e+01 4.322e+02 9.363e-02 1.154e-01 6.636e-02
 3.142e-02 1.967e-01 6.314e-02 2.963e-01 1.563e+00 2.087e+00 2.146e+01
 8.872e-03 4.192e-02 5.946e-02 1.785e-02 2.793e-02 4.775e-03 1.325e+01
 2.710e+01 8.620e+01 5.312e+02 1.405e-01 3.046e-01 2.806e-01 1.138e-01
 3.397e-01 8.365e-02], Class Predicted = 1
 X105 = [1.051e+01 2.309e+01 6.685e+01 3.342e+02 1.015e-01 6.797e-02 2.495e-02
 1.875e-02 1.695e-01 6.556e-02 2.868e-01 1.143e+00 2.289e+00 2.056e+01
 1.017e-02 1.443e-02 1.861e-02 1.250e-02 3.464e-02 1.971e-03 1.093e+01
 2.422e+01 7.010e+01 3.627e+02 1.143e-01 8.614e-02 4.158e-02 3.125e-02
 2.227e-01 6.777e-02], Class Predicted = 1
 X106 = [1.405e+01 2.715e+01 9.138e+01 6.004e+02 9.929e-02 1.126e-01 4.462e-02
 4.304e-02 1.537e-01 6.171e-02 3.645e-01 1.492e+00 2.888e+00 2.984e+01
 7.256e-03 2.678e-02 2.071e-02 1.626e-02 2.080e-02 5.304e-03 1.530e+01
 3.317e+01 1.002e+02 7.067e+02 1.241e-01 2.264e-01 1.326e-01 1.048e-01
 2.250e-01 8.321e-02], Class Predicted = 1

X107 = [9.423e+00 2.788e+01 5.926e+01 2.713e+02 8.123e-02 4.971e-02 0.000e+00
 0.000e+00 1.742e-01 6.059e-02 5.375e-01 2.927e+00 3.618e+00 2.911e+01
 1.159e-02 1.124e-02 0.000e+00 0.000e+00 3.004e-02 3.324e-03 1.049e+01
 3.424e+01 6.650e+01 3.306e+02 1.073e-01 7.158e-02 0.000e+00 0.000e+00
 2.475e-01 6.969e-02], Class Predicted = 1
 X108 = [1.373e+01 2.261e+01 9.360e+01 5.783e+02 1.131e-01 2.293e-01 2.128e-01
 8.025e-02 2.069e-01 7.682e-02 2.121e-01 1.169e+00 2.061e+00 1.921e+01
 6.429e-03 5.936e-02 5.501e-02 1.628e-02 1.961e-02 8.093e-03 1.503e+01
 3.201e+01 1.088e+02 6.977e+02 1.651e-01 7.725e-01 6.943e-01 2.208e-01
 3.596e-01 1.431e-01], Class Predicted = 1
 X109 = [1.377e+01 2.229e+01 9.063e+01 5.889e+02 1.200e-01 1.267e-01 1.385e-01
 6.526e-02 1.834e-01 6.877e-02 6.191e-01 2.112e+00 4.906e+00 4.970e+01
 1.380e-02 3.348e-02 4.665e-02 2.060e-02 2.689e-02 4.306e-03 1.639e+01
 3.401e+01 1.116e+02 8.069e+02 1.737e-01 3.122e-01 3.809e-01 1.673e-01
 3.080e-01 9.333e-02], Class Predicted = 0
 X110 = [2.020e+01 2.683e+01 1.337e+02 1.234e+03 9.905e-02 1.669e-01 1.641e-01
 1.265e-01 1.875e-01 6.020e-02 9.761e-01 1.892e+00 7.128e+00 1.036e+02
 8.439e-03 4.674e-02 5.904e-02 2.536e-02 3.710e-02 4.286e-03 2.419e+01
 3.381e+01 1.600e+02 1.671e+03 1.278e-01 3.416e-01 3.703e-01 2.152e-01
 3.271e-01 7.632e-02], Class Predicted = 0
 X111 = [1.989e+01 2.026e+01 1.305e+02 1.214e+03 1.037e-01 1.310e-01 1.411e-01
 9.431e-02 1.802e-01 6.188e-02 5.079e-01 8.737e-01 3.654e+00 5.970e+01
 5.089e-03 2.303e-02 3.052e-02 1.178e-02 1.057e-02 3.391e-03 2.373e+01
 2.523e+01 1.605e+02 1.646e+03 1.417e-01 3.309e-01 4.185e-01 1.613e-01
 2.549e-01 9.136e-02], Class Predicted = 0
 X112 = [1.442e+01 1.654e+01 9.415e+01 6.412e+02 9.751e-02 1.139e-01 8.007e-02
 4.223e-02 1.912e-01 6.412e-02 3.491e-01 7.706e-01 2.677e+00 3.214e+01
 4.577e-03 3.053e-02 3.840e-02 1.243e-02 1.873e-02 3.373e-03 1.667e+01
 2.151e+01 1.114e+02 8.621e+02 1.294e-01 3.371e-01 3.755e-01 1.414e-01
 3.053e-01 8.764e-02], Class Predicted = 1
 X113 = [1.108e+01 1.883e+01 7.330e+01 3.616e+02 1.216e-01 2.154e-01 1.689e-01
 6.367e-02 2.196e-01 7.950e-02 2.114e-01 1.027e+00 1.719e+00 1.399e+01
 7.405e-03 4.549e-02 4.588e-02 1.339e-02 1.738e-02 4.435e-03 1.324e+01
 3.282e+01 9.176e+01 5.081e+02 2.184e-01 9.379e-01 8.402e-01 2.524e-01
 4.154e-01 1.403e-01], Class Predicted = 1
 X114 = [1.378e+01 1.579e+01 8.837e+01 5.859e+02 8.817e-02 6.718e-02 1.055e-02
 9.937e-03 1.405e-01 5.848e-02 3.563e-01 4.833e-01 2.235e+00 2.934e+01
 6.432e-03 1.156e-02 7.741e-03 5.657e-03 1.227e-02 2.564e-03 1.527e+01
 1.750e+01 9.790e+01 7.066e+02 1.072e-01 1.071e-01 3.517e-02 3.312e-02
 1.859e-01 6.810e-02], Class Predicted = 1
 X115 = [1.075e+01 1.497e+01 6.826e+01 3.553e+02 7.793e-02 5.139e-02 2.251e-02
 7.875e-03 1.399e-01 5.688e-02 2.525e-01 1.239e+00 1.806e+00 1.774e+01
 6.547e-03 1.781e-02 2.018e-02 5.612e-03 1.671e-02 2.360e-03 1.195e+01
 2.072e+01 7.779e+01 4.412e+02 1.076e-01 1.223e-01 9.755e-02 3.413e-02
 2.300e-01 6.769e-02], Class Predicted = 1
 X116 = [1.478e+01 2.394e+01 9.740e+01 6.683e+02 1.172e-01 1.479e-01 1.267e-01
 9.029e-02 1.953e-01 6.654e-02 3.577e-01 1.281e+00 2.450e+00 3.524e+01
 6.703e-03 2.310e-02 2.315e-02 1.184e-02 1.900e-02 3.224e-03 1.731e+01
 3.339e+01 1.146e+02 9.251e+02 1.648e-01 3.416e-01 3.024e-01 1.614e-01
 3.321e-01 8.911e-02], Class Predicted = 1
 X117 = [1.175e+01 1.756e+01 7.589e+01 4.229e+02 1.073e-01 9.713e-02 5.282e-02
 4.440e-02 1.598e-01 6.677e-02 4.384e-01 1.907e+00 3.149e+00 3.066e+01
 6.587e-03 1.815e-02 1.737e-02 1.316e-02 1.835e-02 2.318e-03 1.350e+01
 2.798e+01 8.852e+01 5.523e+02 1.349e-01 1.854e-01 1.366e-01 1.010e-01
 2.478e-01 7.757e-02], Class Predicted = 1
 X118 = [1.301e+01 2.222e+01 8.201e+01 5.264e+02 6.251e-02 1.938e-02 1.595e-03
 1.852e-03 1.395e-01 5.234e-02 1.731e-01 1.142e+00 1.101e+00 1.434e+01
 3.418e-03 2.252e-03 1.595e-03 1.852e-03 1.613e-02 9.683e-04 1.400e+01
 2.902e+01 8.818e+01 6.088e+02 8.125e-02 3.432e-02 7.977e-03 9.259e-03
 2.295e-01 5.843e-02], Class Predicted = 1
 X119 = [2.047e+01 2.067e+01 1.347e+02 1.299e+03 9.156e-02 1.313e-01 1.523e-01
 1.015e-01 2.166e-01 5.419e-02 8.336e-01 1.736e+00 5.168e+00 1.004e+02
 4.938e-03 3.089e-02 4.093e-02 1.699e-02 2.816e-02 2.719e-03 2.323e+01
 2.715e+01 1.520e+02 1.645e+03 1.097e-01 2.534e-01 3.092e-01 1.613e-01
 3.220e-01 6.386e-02], Class Predicted = 0
 X120 = [1.169e+01 2.444e+01 7.637e+01 4.064e+02 1.236e-01 1.552e-01 4.515e-02
 4.531e-02 2.131e-01 7.405e-02 2.957e-01 1.978e+00 2.158e+00 2.095e+01
 1.288e-02 3.495e-02 1.865e-02 1.766e-02 1.560e-02 5.824e-03 1.298e+01
 3.219e+01 8.612e+01 4.877e+02 1.768e-01 3.251e-01 1.395e-01 1.308e-01

2.803e-01 9.970e-02], Class Predicted = 1
 X121 = [1.157e+01 1.904e+01 7.420e+01 4.097e+02 8.546e-02 7.722e-02 5.485e-02
 1.428e-02 2.031e-01 6.267e-02 2.864e-01 1.440e+00 2.206e+00 2.030e+01
 7.278e-03 2.047e-02 4.447e-02 8.799e-03 1.868e-02 3.339e-03 1.307e+01
 2.698e+01 8.643e+01 5.205e+02 1.249e-01 1.937e-01 2.560e-01 6.664e-02
 3.035e-01 8.284e-02], Class Predicted = 1
 X122 = [1.380e+01 1.579e+01 9.043e+01 5.841e+02 1.007e-01 1.280e-01 7.789e-02
 5.069e-02 1.662e-01 6.566e-02 2.787e-01 6.205e-01 1.957e+00 2.335e+01
 4.717e-03 2.065e-02 1.759e-02 9.206e-03 1.220e-02 3.130e-03 1.657e+01
 2.086e+01 1.103e+02 8.124e+02 1.411e-01 3.542e-01 2.779e-01 1.383e-01
 2.589e-01 1.030e-01], Class Predicted = 1
 X123 = [1.445e+01 2.022e+01 9.449e+01 6.427e+02 9.872e-02 1.206e-01 1.180e-01
 5.980e-02 1.950e-01 6.466e-02 2.092e-01 6.509e-01 1.446e+00 1.942e+01
 4.044e-03 1.597e-02 2.000e-02 7.303e-03 1.522e-02 1.976e-03 1.833e+01
 3.012e+01 1.179e+02 1.044e+03 1.552e-01 4.056e-01 4.967e-01 1.838e-01
 4.753e-01 1.013e-01], Class Predicted = 1
 X124 = [1.546e+01 1.948e+01 1.017e+02 7.489e+02 1.092e-01 1.223e-01 1.466e-01
 8.087e-02 1.931e-01 5.796e-02 4.743e-01 7.859e-01 3.094e+00 4.831e+01
 6.240e-03 1.484e-02 2.813e-02 1.093e-02 1.397e-02 2.461e-03 1.926e+01
 2.600e+01 1.249e+02 1.156e+03 1.546e-01 2.394e-01 3.791e-01 1.514e-01
 2.837e-01 8.019e-02], Class Predicted = 0
 X125 = [2.060e+01 2.933e+01 1.401e+02 1.265e+03 1.178e-01 2.770e-01 3.514e-01
 1.520e-01 2.397e-01 7.016e-02 7.260e-01 1.595e+00 5.772e+00 8.622e+01
 6.522e-03 6.158e-02 7.117e-02 1.664e-02 2.324e-02 6.185e-03 2.574e+01
 3.942e+01 1.846e+02 1.821e+03 1.650e-01 8.681e-01 9.387e-01 2.650e-01
 4.087e-01 1.240e-01], Class Predicted = 0
 X126 = [1.422e+01 2.312e+01 9.437e+01 6.099e+02 1.075e-01 2.413e-01 1.981e-01
 6.618e-02 2.384e-01 7.542e-02 2.860e-01 2.110e+00 2.112e+00 3.172e+01
 7.970e-03 1.354e-01 1.166e-01 1.666e-02 5.113e-02 1.172e-02 1.574e+01
 3.718e+01 1.064e+02 7.624e+02 1.533e-01 9.327e-01 8.488e-01 1.772e-01
 5.166e-01 1.446e-01], Class Predicted = 1
 X127 = [8.878e+00 1.549e+01 5.674e+01 2.410e+02 8.293e-02 7.698e-02 4.721e-02
 2.381e-02 1.930e-01 6.621e-02 5.381e-01 1.200e+00 4.277e+00 3.018e+01
 1.093e-02 2.899e-02 3.214e-02 1.506e-02 2.837e-02 4.174e-03 9.981e+00
 1.770e+01 6.527e+01 3.020e+02 1.015e-01 1.248e-01 9.441e-02 4.762e-02
 2.434e-01 7.431e-02], Class Predicted = 1
 X128 = [1.256e+01 1.907e+01 8.192e+01 4.858e+02 8.760e-02 1.038e-01 1.030e-01
 4.391e-02 1.533e-01 6.184e-02 3.602e-01 1.478e+00 3.212e+00 2.749e+01
 9.853e-03 4.235e-02 6.271e-02 1.966e-02 2.639e-02 4.205e-03 1.337e+01
 2.243e+01 8.902e+01 5.474e+02 1.096e-01 2.002e-01 2.388e-01 9.265e-02
 2.121e-01 7.188e-02], Class Predicted = 1
 X129 = [1.143e+01 1.731e+01 7.366e+01 3.980e+02 1.092e-01 9.486e-02 2.031e-02
 1.861e-02 1.645e-01 6.562e-02 2.843e-01 1.908e+00 1.937e+00 2.138e+01
 6.664e-03 1.735e-02 1.158e-02 9.520e-03 2.282e-02 3.526e-03 1.278e+01
 2.676e+01 8.266e+01 5.030e+02 1.413e-01 1.792e-01 7.708e-02 6.402e-02
 2.584e-01 8.096e-02], Class Predicted = 1
 X130 = [1.210e+01 1.772e+01 7.807e+01 4.462e+02 1.029e-01 9.758e-02 4.783e-02
 3.326e-02 1.937e-01 6.161e-02 2.841e-01 1.652e+00 1.869e+00 2.222e+01
 8.146e-03 1.631e-02 1.843e-02 7.513e-03 2.015e-02 1.798e-03 1.356e+01
 2.580e+01 8.833e+01 5.595e+02 1.432e-01 1.773e-01 1.603e-01 6.266e-02
 3.049e-01 7.081e-02], Class Predicted = 1
 X131 = [9.777e+00 1.699e+01 6.250e+01 2.902e+02 1.037e-01 8.404e-02 4.334e-02
 1.778e-02 1.584e-01 7.065e-02 4.030e-01 1.424e+00 2.747e+00 2.287e+01
 1.385e-02 2.932e-02 2.722e-02 1.023e-02 3.281e-02 4.638e-03 1.105e+01
 2.147e+01 7.168e+01 3.670e+02 1.467e-01 1.765e-01 1.300e-01 5.334e-02
 2.533e-01 8.468e-02], Class Predicted = 1
 X132 = [1.361e+01 2.469e+01 8.776e+01 5.726e+02 9.258e-02 7.862e-02 5.285e-02
 3.085e-02 1.761e-01 6.130e-02 2.310e-01 1.005e+00 1.752e+00 1.983e+01
 4.088e-03 1.174e-02 1.796e-02 6.880e-03 1.323e-02 1.465e-03 1.689e+01
 3.564e+01 1.132e+02 8.487e+02 1.471e-01 2.884e-01 3.796e-01 1.329e-01
 3.470e-01 7.900e-02], Class Predicted = 0
 X133 = [9.397e+00 2.168e+01 5.975e+01 2.688e+02 7.969e-02 6.053e-02 3.735e-02
 5.128e-03 1.274e-01 6.724e-02 1.186e-01 1.182e+00 1.174e+00 6.802e+00
 5.515e-03 2.674e-02 3.735e-02 5.128e-03 1.951e-02 4.583e-03 9.965e+00
 2.799e+01 6.661e+01 3.010e+02 1.086e-01 1.887e-01 1.868e-01 2.564e-02
 2.376e-01 9.206e-02], Class Predicted = 1
 X134 = [1.785e+01 1.323e+01 1.146e+02 9.921e+02 7.838e-02 6.217e-02 4.445e-02
 4.178e-02 1.220e-01 5.243e-02 4.834e-01 1.046e+00 3.163e+00 5.095e+01
 4.369e-03 8.274e-03 1.153e-02 7.437e-03 1.302e-02 1.309e-03 1.982e+01

1.842e+01 1.271e+02 1.210e+03 9.862e-02 9.976e-02 1.048e-01 8.341e-02
 1.783e-01 5.871e-02], Class Predicted = 0
 X135 = [1.317e+01 1.822e+01 8.428e+01 5.373e+02 7.466e-02 5.994e-02 4.859e-02
 2.870e-02 1.454e-01 5.549e-02 2.023e-01 6.850e-01 1.236e+00 1.689e+01
 5.969e-03 1.493e-02 1.564e-02 8.463e-03 1.093e-02 1.672e-03 1.490e+01
 2.389e+01 9.510e+01 6.876e+02 1.282e-01 1.965e-01 1.876e-01 1.045e-01
 2.235e-01 6.925e-02], Class Predicted = 1
 X136 = [1.444e+01 1.518e+01 9.397e+01 6.401e+02 9.970e-02 1.021e-01 8.487e-02
 5.532e-02 1.724e-01 6.081e-02 2.406e-01 7.394e-01 2.120e+00 2.120e+01
 5.706e-03 2.297e-02 3.114e-02 1.493e-02 1.454e-02 2.528e-03 1.585e+01
 1.985e+01 1.086e+02 7.669e+02 1.316e-01 2.735e-01 3.103e-01 1.599e-01
 2.691e-01 7.683e-02], Class Predicted = 1
 X137 = [1.553e+01 3.356e+01 1.037e+02 7.449e+02 1.063e-01 1.639e-01 1.751e-01
 8.399e-02 2.091e-01 6.650e-02 2.419e-01 1.278e+00 1.903e+00 2.302e+01
 5.345e-03 2.556e-02 2.889e-02 1.022e-02 9.947e-03 3.359e-03 1.849e+01
 4.954e+01 1.263e+02 1.035e+03 1.883e-01 5.564e-01 5.703e-01 2.014e-01
 3.512e-01 1.204e-01], Class Predicted = 0
 X138 = [9.567e+00 1.591e+01 6.021e+01 2.796e+02 8.464e-02 4.087e-02 1.652e-02
 1.667e-02 1.551e-01 6.403e-02 2.152e-01 8.301e-01 1.215e+00 1.264e+01
 1.164e-02 1.040e-02 1.186e-02 9.623e-03 2.383e-02 3.540e-03 1.051e+01
 1.916e+01 6.574e+01 3.359e+02 1.504e-01 9.515e-02 7.161e-02 7.222e-02
 2.757e-01 8.178e-02], Class Predicted = 1
 X139 = [1.227e+01 1.792e+01 7.841e+01 4.661e+02 8.685e-02 6.526e-02 3.211e-02
 2.653e-02 1.966e-01 5.597e-02 3.342e-01 1.781e+00 2.079e+00 2.579e+01
 5.888e-03 2.310e-02 2.059e-02 1.075e-02 2.578e-02 2.267e-03 1.410e+01
 2.888e+01 8.900e+01 6.102e+02 1.240e-01 1.795e-01 1.377e-01 9.532e-02
 3.455e-01 6.896e-02], Class Predicted = 1
 X140 = [2.034e+01 2.151e+01 1.359e+02 1.264e+03 1.170e-01 1.875e-01 2.565e-01
 1.504e-01 2.569e-01 6.670e-02 5.702e-01 1.023e+00 4.012e+00 6.906e+01
 5.485e-03 2.431e-02 3.190e-02 1.369e-02 2.768e-02 3.345e-03 2.530e+01
 3.186e+01 1.711e+02 1.938e+03 1.592e-01 4.492e-01 5.344e-01 2.685e-01
 5.558e-01 1.024e-01], Class Predicted = 0
 X141 = [1.071e+01 2.039e+01 6.950e+01 3.449e+02 1.082e-01 1.289e-01 8.448e-02
 2.867e-02 1.668e-01 6.862e-02 3.198e-01 1.489e+00 2.230e+00 2.074e+01
 8.902e-03 4.785e-02 7.339e-02 1.745e-02 2.728e-02 7.610e-03 1.169e+01
 2.521e+01 7.651e+01 4.104e+02 1.335e-01 2.550e-01 2.534e-01 8.600e-02
 2.605e-01 8.701e-02], Class Predicted = 1
 X142 = [1.097e+01 1.720e+01 7.173e+01 3.715e+02 8.915e-02 1.113e-01 9.457e-02
 3.613e-02 1.489e-01 6.640e-02 2.574e-01 1.376e+00 2.806e+00 1.815e+01
 8.565e-03 4.638e-02 6.430e-02 1.768e-02 1.516e-02 4.976e-03 1.236e+01
 2.687e+01 9.014e+01 4.764e+02 1.391e-01 4.082e-01 4.779e-01 1.555e-01
 2.540e-01 9.532e-02], Class Predicted = 1
 X143 = [1.381e+01 2.375e+01 9.156e+01 5.978e+02 1.323e-01 1.768e-01 1.558e-01
 9.176e-02 2.251e-01 7.421e-02 5.648e-01 1.930e+00 3.909e+00 5.272e+01
 8.824e-03 3.108e-02 3.112e-02 1.291e-02 1.998e-02 4.506e-03 1.920e+01
 4.185e+01 1.285e+02 1.153e+03 2.226e-01 5.209e-01 4.646e-01 2.013e-01
 4.432e-01 1.086e-01], Class Predicted = 0
 X144 = [1.289e+01 1.312e+01 8.189e+01 5.159e+02 6.955e-02 3.729e-02 2.260e-02
 1.171e-02 1.337e-01 5.581e-02 1.532e-01 4.690e-01 1.115e+00 1.268e+01
 4.731e-03 1.345e-02 1.652e-02 5.905e-03 1.619e-02 2.081e-03 1.362e+01
 1.554e+01 8.740e+01 5.770e+02 9.616e-02 1.147e-01 1.186e-01 5.366e-02
 2.309e-01 6.915e-02], Class Predicted = 1
 X145 = [1.174e+01 1.402e+01 7.424e+01 4.273e+02 7.813e-02 4.340e-02 2.245e-02
 2.763e-02 2.101e-01 6.113e-02 5.619e-01 1.268e+00 3.717e+00 3.783e+01
 8.034e-03 1.442e-02 1.514e-02 1.846e-02 2.921e-02 2.005e-03 1.331e+01
 1.826e+01 8.470e+01 5.337e+02 1.036e-01 8.500e-02 6.735e-02 8.290e-02
 3.101e-01 6.688e-02], Class Predicted = 1
 X146 = [1.404e+01 1.598e+01 8.978e+01 6.112e+02 8.458e-02 5.895e-02 3.534e-02
 2.944e-02 1.714e-01 5.898e-02 3.892e-01 1.046e+00 2.644e+00 3.274e+01
 7.976e-03 1.295e-02 1.608e-02 9.046e-03 2.005e-02 2.830e-03 1.566e+01
 2.158e+01 1.012e+02 7.500e+02 1.195e-01 1.252e-01 1.117e-01 7.453e-02
 2.725e-01 7.234e-02], Class Predicted = 1
 X147 = [1.236e+01 2.180e+01 7.978e+01 4.661e+02 8.772e-02 9.445e-02 6.015e-02
 3.745e-02 1.930e-01 6.404e-02 2.978e-01 1.502e+00 2.203e+00 2.095e+01
 7.112e-03 2.493e-02 2.703e-02 1.293e-02 1.958e-02 4.463e-03 1.383e+01
 3.050e+01 9.146e+01 5.747e+02 1.304e-01 2.463e-01 2.434e-01 1.205e-01
 2.972e-01 9.261e-02], Class Predicted = 1
 X148 = [9.742e+00 1.912e+01 6.193e+01 2.897e+02 1.075e-01 8.333e-02 8.934e-03
 1.967e-02 2.538e-01 7.029e-02 6.965e-01 1.747e+00 4.607e+00 4.352e+01

1.307e-02 1.885e-02 6.021e-03 1.052e-02 3.100e-02 4.225e-03 1.121e+01
 2.317e+01 7.179e+01 3.809e+02 1.398e-01 1.352e-01 2.085e-02 4.589e-02
 3.196e-01 8.009e-02], Class Predicted = 1
 X149 = [1.866e+01 1.712e+01 1.214e+02 1.077e+03 1.054e-01 1.100e-01 1.457e-01
 8.665e-02 1.966e-01 6.213e-02 7.128e-01 1.581e+00 4.895e+00 9.047e+01
 8.102e-03 2.101e-02 3.342e-02 1.601e-02 2.045e-02 4.570e-03 2.225e+01
 2.490e+01 1.454e+02 1.549e+03 1.503e-01 2.291e-01 3.272e-01 1.674e-01
 2.894e-01 8.456e-02], Class Predicted = 0
 X150 = [1.388e+01 1.616e+01 8.837e+01 5.966e+02 7.026e-02 4.831e-02 2.045e-02
 8.507e-03 1.607e-01 5.474e-02 2.541e-01 6.218e-01 1.709e+00 2.312e+01
 3.728e-03 1.415e-02 1.988e-02 7.016e-03 1.647e-02 1.970e-03 1.551e+01
 1.997e+01 9.966e+01 7.453e+02 8.484e-02 1.233e-01 1.091e-01 4.537e-02
 2.542e-01 6.623e-02], Class Predicted = 1
 X151 = [1.132e+01 2.708e+01 7.176e+01 3.957e+02 6.883e-02 3.813e-02 1.633e-02
 3.125e-03 1.869e-01 5.628e-02 1.210e-01 8.927e-01 1.059e+00 8.605e+00
 3.653e-03 1.647e-02 1.633e-02 3.125e-03 1.537e-02 2.052e-03 1.208e+01
 3.375e+01 7.982e+01 4.523e+02 9.203e-02 1.432e-01 1.089e-01 2.083e-02
 2.849e-01 7.087e-02], Class Predicted = 1
 X152 = [1.546e+01 2.395e+01 1.038e+02 7.313e+02 1.183e-01 1.870e-01 2.030e-01
 8.520e-02 1.807e-01 7.083e-02 3.331e-01 1.961e+00 2.937e+00 3.252e+01
 9.538e-03 4.940e-02 6.019e-02 2.041e-02 2.105e-02 6.000e-03 1.711e+01
 3.633e+01 1.177e+02 9.094e+02 1.732e-01 4.967e-01 5.911e-01 2.163e-01
 3.013e-01 1.067e-01], Class Predicted = 0
 X153 = [1.532e+01 1.727e+01 1.032e+02 7.133e+02 1.335e-01 2.284e-01 2.448e-01
 1.242e-01 2.398e-01 7.596e-02 6.592e-01 1.059e+00 4.061e+00 5.946e+01
 1.015e-02 4.588e-02 4.983e-02 2.127e-02 1.884e-02 8.660e-03 1.773e+01
 2.266e+01 1.198e+02 9.288e+02 1.765e-01 4.503e-01 4.429e-01 2.229e-01
 3.258e-01 1.191e-01], Class Predicted = 0
 X154 = [1.910e+01 2.629e+01 1.291e+02 1.132e+03 1.215e-01 1.791e-01 1.937e-01
 1.469e-01 1.634e-01 7.224e-02 5.190e-01 2.910e+00 5.801e+00 6.710e+01
 7.545e-03 6.050e-02 2.134e-02 1.843e-02 3.056e-02 1.039e-02 2.033e+01
 3.272e+01 1.413e+02 1.298e+03 1.392e-01 2.817e-01 2.432e-01 1.841e-01
 2.311e-01 9.203e-02], Class Predicted = 0
 X155 = [1.120e+01 2.937e+01 7.067e+01 3.860e+02 7.449e-02 3.558e-02 0.000e+00
 0.000e+00 1.060e-01 5.502e-02 3.141e-01 3.896e+00 2.041e+00 2.281e+01
 7.594e-03 8.878e-03 0.000e+00 0.000e+00 1.989e-02 1.773e-03 1.192e+01
 3.830e+01 7.519e+01 4.396e+02 9.267e-02 5.494e-02 0.000e+00 0.000e+00
 1.566e-01 5.905e-02], Class Predicted = 1
 X156 = [1.831e+01 1.858e+01 1.186e+02 1.041e+03 8.588e-02 8.468e-02 8.169e-02
 5.814e-02 1.621e-01 5.425e-02 2.577e-01 4.757e-01 1.817e+00 2.892e+01
 2.866e-03 9.181e-03 1.412e-02 6.719e-03 1.069e-02 1.087e-03 2.131e+01
 2.636e+01 1.392e+02 1.410e+03 1.234e-01 2.445e-01 3.538e-01 1.571e-01
 3.206e-01 6.938e-02], Class Predicted = 0
 X157 = [1.280e+01 1.746e+01 8.305e+01 5.083e+02 8.044e-02 8.895e-02 7.390e-02
 4.083e-02 1.574e-01 5.750e-02 3.639e-01 1.265e+00 2.668e+00 3.057e+01
 5.421e-03 3.477e-02 4.545e-02 1.384e-02 1.869e-02 4.067e-03 1.374e+01
 2.106e+01 9.072e+01 5.910e+02 9.534e-02 1.812e-01 1.901e-01 8.296e-02
 1.988e-01 7.053e-02], Class Predicted = 1
 X158 = [8.196e+00 1.684e+01 5.171e+01 2.019e+02 8.600e-02 5.943e-02 1.588e-02
 5.917e-03 1.769e-01 6.503e-02 1.563e-01 9.567e-01 1.094e+00 8.205e+00
 8.968e-03 1.646e-02 1.588e-02 5.917e-03 2.574e-02 2.582e-03 8.964e+00
 2.196e+01 5.726e+01 2.422e+02 1.297e-01 1.357e-01 6.880e-02 2.564e-02
 3.105e-01 7.409e-02], Class Predicted = 1
 X159 = [1.706e+01 2.100e+01 1.118e+02 9.186e+02 1.119e-01 1.056e-01 1.508e-01
 9.934e-02 1.727e-01 6.071e-02 8.161e-01 2.129e+00 6.076e+00 8.717e+01
 6.455e-03 1.797e-02 4.502e-02 1.744e-02 1.829e-02 3.733e-03 2.099e+01
 3.315e+01 1.432e+02 1.362e+03 1.449e-01 2.053e-01 3.920e-01 1.827e-01
 2.623e-01 7.599e-02], Class Predicted = 0
 X160 = [1.327e+01 1.702e+01 8.455e+01 5.464e+02 8.445e-02 4.994e-02 3.554e-02
 2.456e-02 1.496e-01 5.674e-02 2.927e-01 8.907e-01 2.044e+00 2.468e+01
 6.032e-03 1.104e-02 2.259e-02 9.057e-03 1.482e-02 2.496e-03 1.514e+01
 2.360e+01 9.884e+01 7.088e+02 1.276e-01 1.311e-01 1.786e-01 9.678e-02
 2.506e-01 7.623e-02], Class Predicted = 1
 X161 = [1.090e+01 1.296e+01 6.869e+01 3.668e+02 7.515e-02 3.718e-02 3.090e-03
 6.588e-03 1.442e-01 5.743e-02 2.818e-01 7.614e-01 1.808e+00 1.854e+01
 6.142e-03 6.134e-03 1.835e-03 3.576e-03 1.637e-02 2.665e-03 1.236e+01
 1.820e+01 7.807e+01 4.700e+02 1.171e-01 8.294e-02 1.854e-02 3.953e-02
 2.738e-01 7.685e-02], Class Predicted = 1
 X162 = [1.294e+01 1.617e+01 8.318e+01 5.076e+02 9.879e-02 8.836e-02 3.296e-02

2.390e-02 1.735e-01 6.200e-02 1.458e-01 9.050e-01 9.975e-01 1.136e+01
 2.887e-03 1.285e-02 1.613e-02 7.308e-03 1.870e-02 1.972e-03 1.386e+01
 2.302e+01 8.969e+01 5.809e+02 1.172e-01 1.958e-01 1.810e-01 8.388e-02
 3.297e-01 7.834e-02], Class Predicted = 1
 X163 = [1.082e+01 2.421e+01 6.889e+01 3.616e+02 8.192e-02 6.602e-02 1.548e-02
 8.160e-03 1.976e-01 6.328e-02 5.196e-01 1.918e+00 3.564e+00 3.300e+01
 8.263e-03 1.870e-02 1.277e-02 5.917e-03 2.466e-02 2.977e-03 1.303e+01
 3.145e+01 8.390e+01 5.056e+02 1.204e-01 1.633e-01 6.194e-02 3.264e-02
 3.059e-01 7.626e-02], Class Predicted = 1
 X164 = [1.495e+01 1.757e+01 9.685e+01 6.781e+02 1.167e-01 1.305e-01 1.539e-01
 8.624e-02 1.957e-01 6.216e-02 1.296e+00 1.452e+00 8.419e+00 1.019e+02
 1.000e-02 3.480e-02 6.577e-02 2.801e-02 5.168e-02 2.887e-03 1.855e+01
 2.143e+01 1.214e+02 9.714e+02 1.411e-01 2.164e-01 3.355e-01 1.667e-01
 3.414e-01 7.147e-02], Class Predicted = 0
 X165 = [1.106e+01 1.496e+01 7.149e+01 3.739e+02 1.033e-01 9.097e-02 5.397e-02
 3.341e-02 1.776e-01 6.907e-02 1.601e-01 8.225e-01 1.355e+00 1.080e+01
 7.416e-03 1.877e-02 2.758e-02 1.010e-02 2.348e-02 2.917e-03 1.192e+01
 1.990e+01 7.976e+01 4.400e+02 1.418e-01 2.210e-01 2.299e-01 1.075e-01
 3.301e-01 9.080e-02], Class Predicted = 1
 X166 = [1.959e+01 2.500e+01 1.277e+02 1.191e+03 1.032e-01 9.871e-02 1.655e-01
 9.063e-02 1.663e-01 5.391e-02 4.674e-01 1.375e+00 2.916e+00 5.618e+01
 1.190e-02 1.929e-02 4.907e-02 1.499e-02 1.641e-02 1.807e-03 2.144e+01
 3.096e+01 1.398e+02 1.421e+03 1.528e-01 1.845e-01 3.977e-01 1.466e-01
 2.293e-01 6.091e-02], Class Predicted = 0
 X167 = [1.881e+01 1.998e+01 1.209e+02 1.102e+03 8.923e-02 5.884e-02 8.020e-02
 5.843e-02 1.550e-01 4.996e-02 3.283e-01 8.280e-01 2.363e+00 3.674e+01
 7.571e-03 1.114e-02 2.623e-02 1.463e-02 1.930e-02 1.676e-03 1.996e+01
 2.430e+01 1.290e+02 1.236e+03 1.243e-01 1.160e-01 2.210e-01 1.294e-01
 2.567e-01 5.737e-02], Class Predicted = 0
 X168 = [1.195e+01 1.496e+01 7.723e+01 4.267e+02 1.158e-01 1.206e-01 1.171e-02
 1.787e-02 2.459e-01 6.581e-02 3.610e-01 1.050e+00 2.455e+00 2.665e+01
 5.800e-03 2.417e-02 7.816e-03 1.052e-02 2.734e-02 3.114e-03 1.281e+01
 1.772e+01 8.309e+01 4.962e+02 1.293e-01 1.885e-01 3.122e-02 4.766e-02
 3.124e-01 7.590e-02], Class Predicted = 1
 X169 = [2.026e+01 2.303e+01 1.324e+02 1.264e+03 9.078e-02 1.313e-01 1.465e-01
 8.683e-02 2.095e-01 5.649e-02 7.576e-01 1.509e+00 4.554e+00 8.787e+01
 6.016e-03 3.482e-02 4.232e-02 1.269e-02 2.657e-02 4.411e-03 2.422e+01
 3.159e+01 1.561e+02 1.750e+03 1.190e-01 3.539e-01 4.098e-01 1.573e-01
 3.689e-01 8.368e-02], Class Predicted = 0
 X170 = [1.176e+01 1.814e+01 7.500e+01 4.311e+02 9.968e-02 5.914e-02 2.685e-02
 3.515e-02 1.619e-01 6.287e-02 6.450e-01 2.105e+00 4.138e+00 4.911e+01
 5.596e-03 1.005e-02 1.272e-02 1.432e-02 1.575e-02 2.758e-03 1.336e+01
 2.339e+01 8.510e+01 5.536e+02 1.137e-01 7.974e-02 6.120e-02 7.160e-02
 1.978e-01 6.915e-02], Class Predicted = 1
 X171 = [1.300e+01 2.513e+01 8.261e+01 5.202e+02 8.369e-02 5.073e-02 1.206e-02
 1.762e-02 1.667e-01 5.449e-02 2.621e-01 1.232e+00 1.657e+00 2.119e+01
 6.054e-03 8.974e-03 5.681e-03 6.336e-03 1.215e-02 1.514e-03 1.434e+01
 3.188e+01 9.106e+01 6.285e+02 1.218e-01 1.093e-01 4.462e-02 5.921e-02
 2.306e-01 6.291e-02], Class Predicted = 1
 X172 = [1.032e+01 1.635e+01 6.531e+01 3.249e+02 9.434e-02 4.994e-02 1.012e-02
 5.495e-03 1.885e-01 6.201e-02 2.104e-01 9.670e-01 1.356e+00 1.297e+01
 7.086e-03 7.247e-03 1.012e-02 5.495e-03 1.560e-02 2.606e-03 1.125e+01
 2.177e+01 7.112e+01 3.849e+02 1.285e-01 8.842e-02 4.384e-02 2.381e-02
 2.681e-01 7.399e-02], Class Predicted = 1
 X173 = [1.793e+01 2.448e+01 1.152e+02 9.989e+02 8.855e-02 7.027e-02 5.699e-02
 4.744e-02 1.538e-01 5.510e-02 4.212e-01 1.433e+00 2.765e+00 4.581e+01
 5.444e-03 1.169e-02 1.622e-02 8.522e-03 1.419e-02 2.751e-03 2.092e+01
 3.469e+01 1.351e+02 1.320e+03 1.315e-01 1.806e-01 2.080e-01 1.136e-01
 2.504e-01 7.948e-02], Class Predicted = 0
 X174 = [1.171e+01 1.545e+01 7.503e+01 4.203e+02 1.150e-01 7.281e-02 4.006e-02
 3.250e-02 2.009e-01 6.506e-02 3.446e-01 7.395e-01 2.355e+00 2.453e+01
 9.536e-03 1.097e-02 1.651e-02 1.121e-02 1.953e-02 3.100e-03 1.306e+01
 1.816e+01 8.416e+01 5.164e+02 1.460e-01 1.115e-01 1.087e-01 7.864e-02
 2.765e-01 7.806e-02], Class Predicted = 1
 X175 = [1.447e+01 2.499e+01 9.581e+01 6.564e+02 8.837e-02 1.230e-01 1.009e-01
 3.890e-02 1.872e-01 6.341e-02 2.542e-01 1.079e+00 2.615e+00 2.311e+01
 7.138e-03 4.653e-02 3.829e-02 1.162e-02 2.068e-02 6.111e-03 1.622e+01
 3.173e+01 1.135e+02 8.089e+02 1.340e-01 4.202e-01 4.040e-01 1.205e-01
 3.187e-01 1.023e-01], Class Predicted = 0

X176 = [1.162e+01 1.818e+01 7.638e+01 4.088e+02 1.175e-01 1.483e-01 1.020e-01
 5.564e-02 1.957e-01 7.255e-02 4.101e-01 1.740e+00 3.027e+00 2.785e+01
 1.459e-02 3.206e-02 4.961e-02 1.841e-02 1.807e-02 5.217e-03 1.336e+01
 2.540e+01 8.814e+01 5.281e+02 1.780e-01 2.878e-01 3.186e-01 1.416e-01
 2.660e-01 9.270e-02], Class Predicted = 1
 X177 = [1.283e+01 1.573e+01 8.289e+01 5.069e+02 9.040e-02 8.269e-02 5.835e-02
 3.078e-02 1.705e-01 5.913e-02 1.499e-01 4.875e-01 1.195e+00 1.164e+01
 4.873e-03 1.796e-02 3.318e-02 8.360e-03 1.601e-02 2.289e-03 1.409e+01
 1.935e+01 9.322e+01 6.058e+02 1.326e-01 2.610e-01 3.476e-01 9.783e-02
 3.006e-01 7.802e-02], Class Predicted = 1
 X178 = [2.094e+01 2.356e+01 1.389e+02 1.364e+03 1.007e-01 1.606e-01 2.712e-01
 1.310e-01 2.205e-01 5.898e-02 1.004e+00 8.208e-01 6.372e+00 1.379e+02
 5.283e-03 3.908e-02 9.518e-02 1.864e-02 2.401e-02 5.002e-03 2.558e+01
 2.700e+01 1.653e+02 2.010e+03 1.211e-01 3.172e-01 6.991e-01 2.105e-01
 3.126e-01 7.849e-02], Class Predicted = 0
 X179 = [1.369e+01 1.607e+01 8.784e+01 5.791e+02 8.302e-02 6.374e-02 2.556e-02
 2.031e-02 1.872e-01 5.669e-02 1.705e-01 5.066e-01 1.372e+00 1.400e+01
 4.230e-03 1.587e-02 1.169e-02 6.335e-03 1.943e-02 2.177e-03 1.484e+01
 2.021e+01 9.916e+01 6.706e+02 1.105e-01 2.096e-01 1.346e-01 6.987e-02
 3.323e-01 7.701e-02], Class Predicted = 1
 X180 = [1.193e+01 2.153e+01 7.653e+01 4.386e+02 9.768e-02 7.849e-02 3.328e-02
 2.008e-02 1.688e-01 6.194e-02 3.118e-01 9.227e-01 2.000e+00 2.479e+01
 7.803e-03 2.507e-02 1.835e-02 7.711e-03 1.278e-02 3.856e-03 1.367e+01
 2.615e+01 8.754e+01 5.830e+02 1.500e-01 2.399e-01 1.503e-01 7.247e-02
 2.438e-01 8.541e-02], Class Predicted = 1
 X181 = [1.126e+01 1.996e+01 7.372e+01 3.941e+02 8.020e-02 1.181e-01 9.274e-02
 5.588e-02 2.595e-01 6.233e-02 4.866e-01 1.905e+00 2.877e+00 3.468e+01
 1.574e-02 8.262e-02 8.099e-02 3.487e-02 3.418e-02 6.517e-03 1.186e+01
 2.233e+01 7.827e+01 4.376e+02 1.028e-01 1.843e-01 1.546e-01 9.314e-02
 2.955e-01 7.009e-02], Class Predicted = 1
 X182 = [1.344e+01 2.158e+01 8.618e+01 5.630e+02 8.162e-02 6.031e-02 3.110e-02
 2.031e-02 1.784e-01 5.587e-02 2.385e-01 8.265e-01 1.572e+00 2.053e+01
 3.280e-03 1.102e-02 1.390e-02 6.881e-03 1.380e-02 1.286e-03 1.593e+01
 3.025e+01 1.025e+02 7.879e+02 1.094e-01 2.043e-01 2.085e-01 1.112e-01
 2.994e-01 7.146e-02], Class Predicted = 1
 X183 = [1.095e+01 2.135e+01 7.190e+01 3.711e+02 1.227e-01 1.218e-01 1.044e-01
 5.669e-02 1.895e-01 6.870e-02 2.366e-01 1.428e+00 1.822e+00 1.697e+01
 8.064e-03 1.764e-02 2.595e-02 1.037e-02 1.357e-02 3.040e-03 1.284e+01
 3.534e+01 8.722e+01 5.140e+02 1.909e-01 2.698e-01 4.023e-01 1.424e-01
 2.964e-01 9.606e-02], Class Predicted = 1
 X184 = [1.262e+01 2.397e+01 8.135e+01 4.964e+02 7.903e-02 7.529e-02 5.438e-02
 2.036e-02 1.514e-01 6.019e-02 2.449e-01 1.066e+00 1.445e+00 1.851e+01
 5.169e-03 2.294e-02 3.016e-02 8.691e-03 1.365e-02 3.407e-03 1.420e+01
 3.131e+01 9.067e+01 6.240e+02 1.227e-01 3.454e-01 3.911e-01 1.180e-01
 2.826e-01 9.585e-02], Class Predicted = 1
 X185 = [1.180e+01 1.726e+01 7.526e+01 4.319e+02 9.087e-02 6.232e-02 2.853e-02
 1.638e-02 1.847e-01 6.019e-02 3.438e-01 1.140e+00 2.225e+00 2.506e+01
 5.463e-03 1.964e-02 2.079e-02 5.398e-03 1.477e-02 3.071e-03 1.345e+01
 2.449e+01 8.600e+01 5.620e+02 1.244e-01 1.726e-01 1.449e-01 5.356e-02
 2.779e-01 8.121e-02], Class Predicted = 1
 X186 = [1.142e+01 2.038e+01 7.758e+01 3.861e+02 1.425e-01 2.839e-01 2.414e-01
 1.052e-01 2.597e-01 9.744e-02 4.956e-01 1.156e+00 3.445e+00 2.723e+01
 9.110e-03 7.458e-02 5.661e-02 1.867e-02 5.963e-02 9.208e-03 1.491e+01
 2.650e+01 9.887e+01 5.677e+02 2.098e-01 8.663e-01 6.869e-01 2.575e-01
 6.638e-01 1.730e-01], Class Predicted = 1
 X187 = [1.396e+01 1.705e+01 9.143e+01 6.024e+02 1.096e-01 1.279e-01 9.789e-02
 5.246e-02 1.908e-01 6.130e-02 4.250e-01 8.098e-01 2.563e+00 3.574e+01
 6.351e-03 2.679e-02 3.119e-02 1.342e-02 2.062e-02 2.695e-03 1.639e+01
 2.207e+01 1.081e+02 8.260e+02 1.512e-01 3.262e-01 3.209e-01 1.374e-01
 3.068e-01 7.957e-02], Class Predicted = 1
 X188 = [2.058e+01 2.214e+01 1.347e+02 1.290e+03 9.090e-02 1.348e-01 1.640e-01
 9.561e-02 1.765e-01 5.024e-02 8.601e-01 1.480e+00 7.029e+00 1.117e+02
 8.124e-03 3.611e-02 5.489e-02 2.765e-02 3.176e-02 2.365e-03 2.324e+01
 2.784e+01 1.583e+02 1.656e+03 1.178e-01 2.920e-01 3.861e-01 1.920e-01
 2.909e-01 5.865e-02], Class Predicted = 0
 X189 = [1.684e+01 1.946e+01 1.084e+02 8.802e+02 7.445e-02 7.223e-02 5.150e-02
 2.771e-02 1.844e-01 5.268e-02 4.789e-01 2.060e+00 3.479e+00 4.661e+01
 3.443e-03 2.661e-02 3.056e-02 1.110e-02 1.520e-02 1.519e-03 1.822e+01
 2.807e+01 1.203e+02 1.032e+03 8.774e-02 1.710e-01 1.882e-01 8.436e-02

2.527e-01 5.972e-02], Class Predicted = 0
 X190 = [1.863e+01 2.511e+01 1.248e+02 1.088e+03 1.064e-01 1.887e-01 2.319e-01
 1.244e-01 2.183e-01 6.197e-02 8.307e-01 1.466e+00 5.574e+00 1.050e+02
 6.248e-03 3.374e-02 5.196e-02 1.158e-02 2.007e-02 4.560e-03 2.315e+01
 3.401e+01 1.605e+02 1.670e+03 1.491e-01 4.257e-01 6.133e-01 1.848e-01
 3.444e-01 9.782e-02], Class Predicted = 0
 X191 = [1.506e+01 1.983e+01 1.003e+02 7.056e+02 1.039e-01 1.553e-01 1.700e-01
 8.815e-02 1.855e-01 6.284e-02 4.768e-01 9.644e-01 3.706e+00 4.714e+01
 9.250e-03 3.715e-02 4.867e-02 1.851e-02 1.498e-02 3.520e-03 1.823e+01
 2.423e+01 1.235e+02 1.025e+03 1.551e-01 4.203e-01 5.203e-01 2.115e-01
 2.834e-01 8.234e-02], Class Predicted = 0
 X192 = [1.221e+01 1.409e+01 7.878e+01 4.620e+02 8.108e-02 7.823e-02 6.839e-02
 2.534e-02 1.646e-01 6.154e-02 2.666e-01 8.309e-01 2.097e+00 1.996e+01
 4.405e-03 3.026e-02 4.344e-02 1.087e-02 1.921e-02 4.622e-03 1.313e+01
 1.929e+01 8.765e+01 5.299e+02 1.026e-01 2.431e-01 3.076e-01 9.140e-02
 2.677e-01 8.824e-02], Class Predicted = 1
 X193 = [9.333e+00 2.194e+01 5.901e+01 2.640e+02 9.240e-02 5.605e-02 3.996e-02
 1.282e-02 1.692e-01 6.576e-02 3.013e-01 1.879e+00 2.121e+00 1.786e+01
 1.094e-02 1.834e-02 3.996e-02 1.282e-02 3.759e-02 4.623e-03 9.845e+00
 2.505e+01 6.286e+01 2.958e+02 1.103e-01 8.298e-02 7.993e-02 2.564e-02
 2.435e-01 7.393e-02], Class Predicted = 1
 X194 = [1.146e+01 1.816e+01 7.359e+01 4.031e+02 8.853e-02 7.694e-02 3.344e-02
 1.502e-02 1.411e-01 6.243e-02 3.278e-01 1.059e+00 2.475e+00 2.293e+01
 6.652e-03 2.652e-02 2.221e-02 7.807e-03 1.894e-02 3.411e-03 1.268e+01
 2.161e+01 8.269e+01 4.898e+02 1.144e-01 1.789e-01 1.226e-01 5.509e-02
 2.208e-01 7.638e-02], Class Predicted = 1
 X195 = [1.499e+01 2.211e+01 9.753e+01 6.937e+02 8.515e-02 1.025e-01 6.859e-02
 3.876e-02 1.944e-01 5.913e-02 3.186e-01 1.336e+00 2.310e+00 2.851e+01
 4.449e-03 2.808e-02 3.312e-02 1.196e-02 1.906e-02 4.015e-03 1.676e+01
 3.155e+01 1.102e+02 8.671e+02 1.077e-01 3.345e-01 3.114e-01 1.308e-01
 3.163e-01 9.251e-02], Class Predicted = 1
 X196 = [1.508e+01 2.574e+01 9.800e+01 7.166e+02 1.024e-01 9.769e-02 1.235e-01
 6.553e-02 1.647e-01 6.464e-02 6.534e-01 1.506e+00 4.174e+00 6.337e+01
 1.052e-02 2.431e-02 4.912e-02 1.746e-02 2.120e-02 4.867e-03 1.851e+01
 3.322e+01 1.212e+02 1.050e+03 1.660e-01 2.356e-01 4.029e-01 1.526e-01
 2.654e-01 9.438e-02], Class Predicted = 0
 X197 = [1.461e+01 1.569e+01 9.268e+01 6.649e+02 7.618e-02 3.515e-02 1.447e-02
 1.877e-02 1.632e-01 5.255e-02 3.160e-01 9.115e-01 1.954e+00 2.890e+01
 5.031e-03 6.021e-03 5.325e-03 6.324e-03 1.494e-02 8.948e-04 1.646e+01
 2.175e+01 1.037e+02 8.408e+02 1.011e-01 7.087e-02 4.746e-02 5.813e-02
 2.530e-01 5.695e-02], Class Predicted = 1
 X198 = [1.808e+01 2.184e+01 1.174e+02 1.024e+03 7.371e-02 8.642e-02 1.103e-01
 5.778e-02 1.770e-01 5.340e-02 6.362e-01 1.305e+00 4.312e+00 7.636e+01
 5.530e-03 5.296e-02 6.110e-02 1.444e-02 2.140e-02 5.036e-03 1.976e+01
 2.470e+01 1.291e+02 1.228e+03 8.822e-02 1.963e-01 2.535e-01 9.181e-02
 2.369e-01 6.558e-02], Class Predicted = 0
 X199 = [1.534e+01 1.426e+01 1.025e+02 7.044e+02 1.073e-01 2.135e-01 2.077e-01
 9.756e-02 2.521e-01 7.032e-02 4.388e-01 7.096e-01 3.384e+00 4.491e+01
 6.789e-03 5.328e-02 6.446e-02 2.252e-02 3.672e-02 4.394e-03 1.807e+01
 1.908e+01 1.251e+02 9.809e+02 1.390e-01 5.954e-01 6.305e-01 2.393e-01
 4.667e-01 9.946e-02], Class Predicted = 0
 X200 = [1.403e+01 2.125e+01 8.979e+01 6.034e+02 9.070e-02 6.945e-02 1.462e-02
 1.896e-02 1.517e-01 5.835e-02 2.589e-01 1.503e+00 1.667e+00 2.207e+01
 7.389e-03 1.383e-02 7.302e-03 1.004e-02 1.263e-02 2.925e-03 1.533e+01
 3.028e+01 9.827e+01 7.155e+02 1.287e-01 1.513e-01 6.231e-02 7.963e-02
 2.226e-01 7.617e-02], Class Predicted = 1
 X201 = [1.803e+01 1.685e+01 1.175e+02 9.900e+02 8.947e-02 1.232e-01 1.090e-01
 6.254e-02 1.720e-01 5.780e-02 2.986e-01 5.906e-01 1.921e+00 3.577e+01
 4.117e-03 1.560e-02 2.975e-02 9.753e-03 1.295e-02 2.436e-03 2.038e+01
 2.202e+01 1.333e+02 1.292e+03 1.263e-01 2.666e-01 4.290e-01 1.535e-01
 2.842e-01 8.225e-02], Class Predicted = 0
 X202 = [1.495e+01 1.877e+01 9.784e+01 6.895e+02 8.138e-02 1.167e-01 9.050e-02
 3.562e-02 1.744e-01 6.493e-02 4.220e-01 1.909e+00 3.271e+00 3.943e+01
 5.790e-03 4.877e-02 5.303e-02 1.527e-02 3.356e-02 9.368e-03 1.625e+01
 2.547e+01 1.071e+02 8.097e+02 9.970e-02 2.521e-01 2.500e-01 8.405e-02
 2.852e-01 9.218e-02], Class Predicted = 1
 X203 = [7.691e+00 2.544e+01 4.834e+01 1.704e+02 8.668e-02 1.199e-01 9.252e-02
 1.364e-02 2.037e-01 7.751e-02 2.196e-01 1.479e+00 1.445e+00 1.173e+01
 1.547e-02 6.457e-02 9.252e-02 1.364e-02 2.105e-02 7.551e-03 8.678e+00

3.189e+01 5.449e+01 2.236e+02 1.596e-01 3.064e-01 3.393e-01 5.000e-02
 2.790e-01 1.066e-01], Class Predicted = 1
 X204 = [1.387e+01 1.621e+01 8.852e+01 5.937e+02 8.743e-02 5.492e-02 1.502e-02
 2.088e-02 1.424e-01 5.883e-02 2.543e-01 1.363e+00 1.737e+00 2.074e+01
 5.638e-03 7.939e-03 5.254e-03 6.042e-03 1.544e-02 2.087e-03 1.511e+01
 2.558e+01 9.674e+01 6.944e+02 1.153e-01 1.008e-01 5.285e-02 5.556e-02
 2.362e-01 7.113e-02], Class Predicted = 1
 X205 = [1.114e+01 1.407e+01 7.124e+01 3.846e+02 7.274e-02 6.064e-02 4.505e-02
 1.471e-02 1.690e-01 6.083e-02 4.222e-01 8.092e-01 3.330e+00 2.884e+01
 5.541e-03 3.387e-02 4.505e-02 1.471e-02 3.102e-02 4.831e-03 1.212e+01
 1.582e+01 7.962e+01 4.535e+02 8.864e-02 1.256e-01 1.201e-01 3.922e-02
 2.576e-01 7.018e-02], Class Predicted = 1
 X206 = [1.176e+01 2.160e+01 7.472e+01 4.279e+02 8.637e-02 4.966e-02 1.657e-02
 1.115e-02 1.495e-01 5.888e-02 4.062e-01 1.210e+00 2.635e+00 2.847e+01
 5.857e-03 9.758e-03 1.168e-02 7.445e-03 2.406e-02 1.769e-03 1.298e+01
 2.572e+01 8.298e+01 5.165e+02 1.085e-01 8.615e-02 5.523e-02 3.715e-02
 2.433e-01 6.563e-02], Class Predicted = 1
 X207 = [1.194e+01 1.824e+01 7.571e+01 4.376e+02 8.261e-02 4.751e-02 1.972e-02
 1.349e-02 1.868e-01 6.110e-02 2.273e-01 6.329e-01 1.520e+00 1.747e+01
 7.210e-03 8.380e-03 1.311e-02 8.000e-03 1.996e-02 2.635e-03 1.310e+01
 2.133e+01 8.367e+01 5.272e+02 1.144e-01 8.906e-02 9.203e-02 6.296e-02
 2.785e-01 7.408e-02], Class Predicted = 1
 X208 = [1.366e+01 1.515e+01 8.827e+01 5.806e+02 8.268e-02 7.548e-02 4.249e-02
 2.471e-02 1.792e-01 5.897e-02 1.402e-01 5.417e-01 1.101e+00 1.135e+01
 5.212e-03 2.984e-02 2.443e-02 8.356e-03 1.818e-02 4.868e-03 1.454e+01
 1.964e+01 9.796e+01 6.570e+02 1.275e-01 3.104e-01 2.569e-01 1.054e-01
 3.387e-01 9.638e-02], Class Predicted = 1
 X209 = [9.668e+00 1.810e+01 6.106e+01 2.863e+02 8.311e-02 5.428e-02 1.479e-02
 5.769e-03 1.680e-01 6.412e-02 3.416e-01 1.312e+00 2.275e+00 2.098e+01
 1.098e-02 1.257e-02 1.031e-02 3.934e-03 2.693e-02 2.979e-03 1.115e+01
 2.462e+01 7.111e+01 3.802e+02 1.388e-01 1.255e-01 6.409e-02 2.500e-02
 3.057e-01 7.875e-02], Class Predicted = 1
 X210 = [1.370e+01 1.764e+01 8.776e+01 5.711e+02 9.950e-02 7.957e-02 4.548e-02
 3.160e-02 1.732e-01 6.088e-02 2.431e-01 9.462e-01 1.564e+00 2.064e+01
 3.245e-03 8.186e-03 1.698e-02 9.233e-03 1.285e-02 1.524e-03 1.496e+01
 2.353e+01 9.578e+01 6.865e+02 1.199e-01 1.346e-01 1.742e-01 9.077e-02
 2.518e-01 6.960e-02], Class Predicted = 1
 X211 = [1.091e+01 1.235e+01 6.914e+01 3.637e+02 8.518e-02 4.721e-02 1.236e-02
 1.369e-02 1.449e-01 6.031e-02 1.753e-01 1.027e+00 1.267e+00 1.109e+01
 3.478e-03 1.221e-02 1.072e-02 9.393e-03 2.941e-02 3.428e-03 1.137e+01
 1.482e+01 7.242e+01 3.922e+02 9.312e-02 7.506e-02 2.884e-02 3.194e-02
 2.143e-01 6.643e-02], Class Predicted = 1
 X212 = [1.066e+01 1.515e+01 6.749e+01 3.496e+02 8.792e-02 4.302e-02 0.000e+00
 0.000e+00 1.928e-01 5.975e-02 3.309e-01 1.925e+00 2.155e+00 2.198e+01
 8.713e-03 1.017e-02 0.000e+00 0.000e+00 3.265e-02 1.002e-03 1.154e+01
 1.920e+01 7.320e+01 4.083e+02 1.076e-01 6.791e-02 0.000e+00 0.000e+00
 2.710e-01 6.164e-02], Class Predicted = 1
 X213 = [2.073e+01 3.112e+01 1.357e+02 1.419e+03 9.469e-02 1.143e-01 1.367e-01
 8.646e-02 1.769e-01 5.674e-02 1.172e+00 1.617e+00 7.749e+00 1.997e+02
 4.551e-03 1.478e-02 2.143e-02 9.280e-03 1.367e-02 2.299e-03 3.249e+01
 4.716e+01 2.140e+02 3.432e+03 1.401e-01 2.644e-01 3.442e-01 1.659e-01
 2.868e-01 8.218e-02], Class Predicted = 0
 X214 = [1.128e+01 1.339e+01 7.300e+01 3.848e+02 1.164e-01 1.136e-01 4.635e-02
 4.796e-02 1.771e-01 6.072e-02 3.384e-01 1.343e+00 1.851e+00 2.633e+01
 1.127e-02 3.498e-02 2.187e-02 1.965e-02 1.580e-02 3.442e-03 1.192e+01
 1.577e+01 7.653e+01 4.340e+02 1.367e-01 1.822e-01 8.669e-02 8.611e-02
 2.102e-01 6.784e-02], Class Predicted = 1
 X215 = [1.174e+01 1.469e+01 7.631e+01 4.260e+02 8.099e-02 9.661e-02 6.726e-02
 2.639e-02 1.499e-01 6.758e-02 1.924e-01 6.417e-01 1.345e+00 1.304e+01
 6.982e-03 3.916e-02 4.017e-02 1.528e-02 2.260e-02 6.822e-03 1.245e+01
 1.760e+01 8.125e+01 4.738e+02 1.073e-01 2.793e-01 2.690e-01 1.056e-01
 2.604e-01 9.879e-02], Class Predicted = 1
 X216 = [1.359e+01 2.184e+01 8.716e+01 5.610e+02 7.956e-02 8.259e-02 4.072e-02
 2.142e-02 1.635e-01 5.859e-02 3.380e-01 1.916e+00 2.591e+00 2.676e+01
 5.436e-03 2.406e-02 3.099e-02 9.919e-03 2.030e-02 3.009e-03 1.480e+01
 3.004e+01 9.766e+01 6.615e+02 1.005e-01 1.730e-01 1.453e-01 6.189e-02
 2.446e-01 7.024e-02], Class Predicted = 1
 X217 = [1.426e+01 1.817e+01 9.122e+01 6.331e+02 6.576e-02 5.220e-02 2.475e-02
 1.374e-02 1.635e-01 5.586e-02 2.300e-01 6.690e-01 1.661e+00 2.056e+01

3.169e-03 1.377e-02 1.079e-02 5.243e-03 1.103e-02 1.957e-03 1.622e+01
 2.526e+01 1.058e+02 8.197e+02 9.445e-02 2.167e-01 1.565e-01 7.530e-02
 2.636e-01 7.676e-02], Class Predicted = 1
 X218 = [1.220e+01 1.521e+01 7.801e+01 4.579e+02 8.673e-02 6.545e-02 1.994e-02
 1.692e-02 1.638e-01 6.129e-02 2.575e-01 8.073e-01 1.959e+00 1.901e+01
 5.403e-03 1.418e-02 1.051e-02 5.142e-03 1.333e-02 2.065e-03 1.375e+01
 2.138e+01 9.111e+01 5.831e+02 1.256e-01 1.928e-01 1.167e-01 5.556e-02
 2.661e-01 7.961e-02], Class Predicted = 1
 X219 = [1.203e+01 1.793e+01 7.609e+01 4.460e+02 7.683e-02 3.892e-02 1.546e-03
 5.592e-03 1.382e-01 6.070e-02 2.335e-01 9.097e-01 1.466e+00 1.697e+01
 4.729e-03 6.887e-03 1.184e-03 3.951e-03 1.466e-02 1.755e-03 1.307e+01
 2.225e+01 8.274e+01 5.234e+02 1.013e-01 7.390e-02 7.732e-03 2.796e-02
 2.171e-01 7.037e-02], Class Predicted = 1
 X220 = [1.189e+01 2.117e+01 7.639e+01 4.338e+02 9.773e-02 8.120e-02 2.555e-02
 2.179e-02 2.019e-01 6.290e-02 2.747e-01 1.203e+00 1.930e+00 1.953e+01
 9.895e-03 3.053e-02 1.630e-02 9.276e-03 2.258e-02 2.272e-03 1.305e+01
 2.721e+01 8.509e+01 5.229e+02 1.426e-01 2.187e-01 1.164e-01 8.263e-02
 3.075e-01 7.351e-02], Class Predicted = 1
 X221 = [1.311e+01 1.556e+01 8.721e+01 5.302e+02 1.398e-01 1.765e-01 2.071e-01
 9.601e-02 1.925e-01 7.692e-02 3.908e-01 9.238e-01 2.410e+00 3.466e+01
 7.162e-03 2.912e-02 5.473e-02 1.388e-02 1.547e-02 7.098e-03 1.631e+01
 2.240e+01 1.064e+02 8.272e+02 1.862e-01 4.099e-01 6.376e-01 1.986e-01
 3.147e-01 1.405e-01], Class Predicted = 1
 X222 = [1.468e+01 2.013e+01 9.474e+01 6.845e+02 9.867e-02 7.200e-02 7.395e-02
 5.259e-02 1.586e-01 5.922e-02 4.727e-01 1.240e+00 3.195e+00 4.540e+01
 5.718e-03 1.162e-02 1.998e-02 1.109e-02 1.410e-02 2.085e-03 1.907e+01
 3.088e+01 1.234e+02 1.138e+03 1.464e-01 1.871e-01 2.914e-01 1.609e-01
 3.029e-01 8.216e-02], Class Predicted = 0
 X223 = [1.240e+01 1.768e+01 8.147e+01 4.678e+02 1.054e-01 1.316e-01 7.741e-02
 2.799e-02 1.811e-01 7.102e-02 1.767e-01 1.460e+00 2.204e+00 1.543e+01
 1.000e-02 3.295e-02 4.861e-02 1.167e-02 2.187e-02 6.005e-03 1.288e+01
 2.291e+01 8.961e+01 5.158e+02 1.450e-01 2.629e-01 2.403e-01 7.370e-02
 2.556e-01 9.359e-02], Class Predicted = 1
 X224 = [1.145e+01 2.097e+01 7.381e+01 4.015e+02 1.102e-01 9.362e-02 4.591e-02
 2.233e-02 1.842e-01 7.005e-02 3.251e-01 2.174e+00 2.077e+00 2.462e+01
 1.037e-02 1.706e-02 2.586e-02 7.506e-03 1.816e-02 3.976e-03 1.311e+01
 3.216e+01 8.453e+01 5.251e+02 1.557e-01 1.676e-01 1.755e-01 6.127e-02
 2.762e-01 8.851e-02], Class Predicted = 1
 X225 = [1.729e+01 2.213e+01 1.144e+02 9.478e+02 8.999e-02 1.273e-01 9.697e-02
 7.507e-02 2.108e-01 5.464e-02 8.348e-01 1.633e+00 6.146e+00 9.094e+01
 6.717e-03 5.981e-02 4.638e-02 2.149e-02 2.747e-02 5.838e-03 2.039e+01
 2.724e+01 1.379e+02 1.295e+03 1.134e-01 2.867e-01 2.298e-01 1.528e-01
 3.067e-01 7.484e-02], Class Predicted = 0
 X226 = [1.330e+01 2.157e+01 8.524e+01 5.461e+02 8.582e-02 6.373e-02 3.344e-02
 2.424e-02 1.815e-01 5.696e-02 2.621e-01 1.539e+00 2.028e+00 2.098e+01
 5.498e-03 2.045e-02 1.795e-02 6.399e-03 1.829e-02 1.956e-03 1.420e+01
 2.920e+01 9.294e+01 6.212e+02 1.140e-01 1.667e-01 1.212e-01 5.614e-02
 2.637e-01 6.658e-02], Class Predicted = 1
 X227 = [1.263e+01 2.076e+01 8.215e+01 4.804e+02 9.933e-02 1.209e-01 1.065e-01
 6.021e-02 1.735e-01 7.070e-02 3.424e-01 1.803e+00 2.711e+00 2.048e+01
 1.291e-02 4.042e-02 5.101e-02 2.295e-02 2.144e-02 5.891e-03 1.333e+01
 2.547e+01 8.900e+01 5.274e+02 1.287e-01 2.250e-01 2.216e-01 1.105e-01
 2.226e-01 8.486e-02], Class Predicted = 1
 X228 = [1.492e+01 1.493e+01 9.645e+01 6.869e+02 8.098e-02 8.549e-02 5.539e-02
 3.221e-02 1.687e-01 5.669e-02 2.446e-01 4.334e-01 1.826e+00 2.331e+01
 3.271e-03 1.770e-02 2.310e-02 8.399e-03 1.148e-02 2.379e-03 1.718e+01
 1.822e+01 1.120e+02 9.066e+02 1.065e-01 2.791e-01 3.151e-01 1.147e-01
 2.688e-01 8.273e-02], Class Predicted = 1
 X229 = [2.742e+01 2.627e+01 1.869e+02 2.501e+03 1.084e-01 1.988e-01 3.635e-01
 1.689e-01 2.061e-01 5.623e-02 2.547e+00 1.306e+00 1.865e+01 5.422e+02
 7.650e-03 5.374e-02 8.055e-02 2.598e-02 1.697e-02 4.558e-03 3.604e+01
 3.137e+01 2.512e+02 4.254e+03 1.357e-01 4.256e-01 6.833e-01 2.625e-01
 2.641e-01 7.427e-02], Class Predicted = 0
 X230 = [1.390e+01 1.662e+01 8.897e+01 5.994e+02 6.828e-02 5.319e-02 2.224e-02
 1.339e-02 1.813e-01 5.536e-02 1.555e-01 5.762e-01 1.392e+00 1.403e+01
 3.308e-03 1.315e-02 9.904e-03 4.832e-03 1.316e-02 2.095e-03 1.514e+01
 2.180e+01 1.012e+02 7.189e+02 9.384e-02 2.006e-01 1.384e-01 6.222e-02
 2.679e-01 7.698e-02], Class Predicted = 1
 X231 = [1.575e+01 2.025e+01 1.026e+02 7.613e+02 1.025e-01 1.204e-01 1.147e-01

6.462e-02 1.935e-01 6.303e-02 3.473e-01 9.209e-01 2.244e+00 3.219e+01
 4.766e-03 2.374e-02 2.384e-02 8.637e-03 1.772e-02 3.131e-03 1.956e+01
 3.029e+01 1.259e+02 1.088e+03 1.552e-01 4.480e-01 3.976e-01 1.479e-01
 3.993e-01 1.064e-01], Class Predicted = 0
 X232 = [1.017e+01 1.488e+01 6.455e+01 3.119e+02 1.134e-01 8.061e-02 1.084e-02
 1.290e-02 2.743e-01 6.960e-02 5.158e-01 1.441e+00 3.312e+00 3.462e+01
 7.514e-03 1.099e-02 7.665e-03 8.193e-03 4.183e-02 5.953e-03 1.102e+01
 1.745e+01 6.986e+01 3.686e+02 1.275e-01 9.866e-02 2.168e-02 2.579e-02
 3.557e-01 8.020e-02], Class Predicted = 1
 X233 = [1.440e+01 2.699e+01 9.225e+01 6.461e+02 6.995e-02 5.223e-02 3.476e-02
 1.737e-02 1.707e-01 5.433e-02 2.315e-01 9.112e-01 1.727e+00 2.052e+01
 5.356e-03 1.679e-02 1.971e-02 6.370e-03 1.414e-02 1.892e-03 1.540e+01
 3.198e+01 1.004e+02 7.346e+02 1.017e-01 1.460e-01 1.472e-01 5.563e-02
 2.345e-01 6.464e-02], Class Predicted = 1
 X234 = [1.234e+01 2.222e+01 7.985e+01 4.645e+02 1.012e-01 1.015e-01 5.370e-02
 2.822e-02 1.551e-01 6.761e-02 2.949e-01 1.656e+00 1.955e+00 2.155e+01
 1.134e-02 3.175e-02 3.125e-02 1.135e-02 1.879e-02 5.348e-03 1.358e+01
 2.868e+01 8.736e+01 5.530e+02 1.452e-01 2.338e-01 1.688e-01 8.194e-02
 2.268e-01 9.082e-02], Class Predicted = 1
 X235 = [1.611e+01 1.805e+01 1.051e+02 8.130e+02 9.721e-02 1.137e-01 9.447e-02
 5.943e-02 1.861e-01 6.248e-02 7.049e-01 1.332e+00 4.533e+00 7.408e+01
 6.770e-03 1.938e-02 3.067e-02 1.167e-02 1.875e-02 3.434e-03 1.992e+01
 2.527e+01 1.290e+02 1.233e+03 1.314e-01 2.236e-01 2.802e-01 1.216e-01
 2.792e-01 8.158e-02], Class Predicted = 0
 X236 = [9.504e+00 1.244e+01 6.034e+01 2.739e+02 1.024e-01 6.492e-02 2.956e-02
 2.076e-02 1.815e-01 6.905e-02 2.773e-01 9.768e-01 1.909e+00 1.570e+01
 9.606e-03 1.432e-02 1.985e-02 1.421e-02 2.027e-02 2.968e-03 1.023e+01
 1.566e+01 6.513e+01 3.149e+02 1.324e-01 1.148e-01 8.867e-02 6.227e-02
 2.450e-01 7.773e-02], Class Predicted = 1
 X237 = [2.171e+01 1.725e+01 1.409e+02 1.546e+03 9.384e-02 8.562e-02 1.168e-01
 8.465e-02 1.717e-01 5.054e-02 1.207e+00 1.051e+00 7.733e+00 2.241e+02
 5.568e-03 1.112e-02 2.096e-02 1.197e-02 1.263e-02 1.803e-03 3.075e+01
 2.644e+01 1.995e+02 3.143e+03 1.363e-01 1.628e-01 2.861e-01 1.820e-01
 2.510e-01 6.494e-02], Class Predicted = 0
 X238 = [1.049e+01 1.861e+01 6.686e+01 3.343e+02 1.068e-01 6.678e-02 2.297e-02
 1.780e-02 1.482e-01 6.600e-02 1.485e-01 1.563e+00 1.035e+00 1.008e+01
 8.875e-03 9.362e-03 1.808e-02 9.199e-03 1.791e-02 3.317e-03 1.106e+01
 2.454e+01 7.076e+01 3.754e+02 1.413e-01 1.044e-01 8.423e-02 6.528e-02
 2.213e-01 7.842e-02], Class Predicted = 1
 X239 = [1.968e+01 2.168e+01 1.299e+02 1.194e+03 9.797e-02 1.339e-01 1.863e-01
 1.103e-01 2.082e-01 5.715e-02 6.226e-01 2.284e+00 5.173e+00 6.766e+01
 4.756e-03 3.368e-02 4.345e-02 1.806e-02 3.756e-02 3.288e-03 2.275e+01
 3.466e+01 1.576e+02 1.540e+03 1.218e-01 3.458e-01 4.734e-01 2.255e-01
 4.045e-01 7.918e-02], Class Predicted = 0
 X240 = [1.181e+01 1.739e+01 7.527e+01 4.289e+02 1.007e-01 5.562e-02 2.353e-02
 1.553e-02 1.718e-01 5.780e-02 1.859e-01 1.926e+00 1.011e+00 1.447e+01
 7.831e-03 8.776e-03 1.556e-02 6.240e-03 3.139e-02 1.988e-03 1.257e+01
 2.648e+01 7.957e+01 4.895e+02 1.356e-01 1.000e-01 8.803e-02 4.306e-02
 3.200e-01 6.576e-02], Class Predicted = 1
 X241 = [9.676e+00 1.314e+01 6.412e+01 2.725e+02 1.255e-01 2.204e-01 1.188e-01
 7.038e-02 2.057e-01 9.575e-02 2.744e-01 1.390e+00 1.787e+00 1.767e+01
 2.177e-02 4.888e-02 5.189e-02 1.450e-02 2.632e-02 1.148e-02 1.060e+01
 1.804e+01 6.947e+01 3.281e+02 2.006e-01 3.663e-01 2.913e-01 1.075e-01
 2.848e-01 1.364e-01], Class Predicted = 1
 X242 = [1.362e+01 2.323e+01 8.719e+01 5.732e+02 9.246e-02 6.747e-02 2.974e-02
 2.443e-02 1.664e-01 5.801e-02 3.460e-01 1.336e+00 2.066e+00 3.124e+01
 5.868e-03 2.099e-02 2.021e-02 9.064e-03 2.087e-02 2.583e-03 1.535e+01
 2.909e+01 9.758e+01 7.298e+02 1.216e-01 1.517e-01 1.049e-01 7.174e-02
 2.642e-01 6.953e-02], Class Predicted = 1
 X243 = [1.317e+01 2.181e+01 8.542e+01 5.315e+02 9.714e-02 1.047e-01 8.259e-02
 5.252e-02 1.746e-01 6.177e-02 1.938e-01 6.123e-01 1.334e+00 1.449e+01
 3.350e-03 1.384e-02 1.452e-02 6.853e-03 1.113e-02 1.720e-03 1.623e+01
 2.989e+01 1.055e+02 7.407e+02 1.503e-01 3.904e-01 3.728e-01 1.607e-01
 3.693e-01 9.618e-02], Class Predicted = 1
 X244 = [1.453e+01 1.398e+01 9.386e+01 6.442e+02 1.099e-01 9.242e-02 6.895e-02
 6.495e-02 1.650e-01 6.121e-02 3.060e-01 7.213e-01 2.143e+00 2.570e+01
 6.133e-03 1.251e-02 1.615e-02 1.136e-02 2.207e-02 3.563e-03 1.580e+01
 1.693e+01 1.031e+02 7.499e+02 1.347e-01 1.478e-01 1.373e-01 1.069e-01
 2.606e-01 7.810e-02], Class Predicted = 1

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X245 = [1.249e+01 1.685e+01 7.919e+01 4.816e+02 8.511e-02 3.834e-02 4.473e-03
6.423e-03 1.215e-01 5.673e-02 1.716e-01 7.151e-01 1.047e+00 1.269e+01
4.928e-03 3.012e-03 2.620e-03 3.390e-03 1.393e-02 1.344e-03 1.334e+01
1.971e+01 8.448e+01 5.442e+02 1.104e-01 4.953e-02 1.938e-02 2.784e-02
1.917e-01 6.174e-02], Class Predicted = 1
X246 = [1.377e+01 1.327e+01 8.806e+01 5.827e+02 9.198e-02 6.221e-02 1.063e-02
1.917e-02 1.592e-01 5.912e-02 2.191e-01 6.946e-01 1.479e+00 1.774e+01
4.348e-03 8.153e-03 4.272e-03 6.829e-03 2.154e-02 1.802e-03 1.467e+01
1.693e+01 9.417e+01 6.611e+02 1.170e-01 1.072e-01 3.732e-02 5.802e-02
2.823e-01 6.794e-02], Class Predicted = 1
X247 = [1.486e+01 2.321e+01 1.004e+02 6.714e+02 1.044e-01 1.980e-01 1.697e-01
8.878e-02 1.737e-01 6.672e-02 2.796e-01 9.622e-01 3.591e+00 2.520e+01
8.081e-03 5.122e-02 5.551e-02 1.883e-02 2.545e-02 4.312e-03 1.608e+01
2.778e+01 1.186e+02 7.847e+02 1.316e-01 4.648e-01 4.589e-01 1.727e-01
3.000e-01 8.701e-02], Class Predicted = 0
X248 = [1.234e+01 2.686e+01 8.115e+01 4.774e+02 1.034e-01 1.353e-01 1.085e-01
4.562e-02 1.943e-01 6.937e-02 4.053e-01 1.809e+00 2.642e+00 3.444e+01
9.098e-03 3.845e-02 3.763e-02 1.321e-02 1.878e-02 5.672e-03 1.565e+01
3.934e+01 1.017e+02 7.689e+02 1.785e-01 4.706e-01 4.425e-01 1.459e-01
3.215e-01 1.205e-01], Class Predicted = 1
X249 = [1.346e+01 2.821e+01 8.589e+01 5.621e+02 7.517e-02 4.726e-02 1.271e-02
1.117e-02 1.421e-01 5.763e-02 1.689e-01 1.150e+00 1.400e+00 1.491e+01
4.942e-03 1.203e-02 7.508e-03 5.179e-03 1.442e-02 1.684e-03 1.469e+01
3.563e+01 9.711e+01 6.806e+02 1.108e-01 1.457e-01 7.934e-02 5.781e-02
2.694e-01 7.061e-02], Class Predicted = 1
X250 = [1.459e+01 2.268e+01 9.639e+01 6.571e+02 8.473e-02 1.330e-01 1.029e-01
3.736e-02 1.454e-01 6.147e-02 2.254e-01 1.108e+00 2.224e+00 1.954e+01
4.242e-03 4.639e-02 6.578e-02 1.606e-02 1.638e-02 4.406e-03 1.548e+01
2.727e+01 1.059e+02 7.335e+02 1.026e-01 3.171e-01 3.662e-01 1.105e-01
2.258e-01 8.004e-02], Class Predicted = 1
X251 = [9.465e+00 2.101e+01 6.011e+01 2.694e+02 1.044e-01 7.773e-02 2.172e-02
1.504e-02 1.717e-01 6.899e-02 2.351e-01 2.011e+00 1.660e+00 1.420e+01
1.052e-02 1.755e-02 1.714e-02 9.333e-03 2.279e-02 4.237e-03 1.041e+01
3.156e+01 6.703e+01 3.307e+02 1.548e-01 1.664e-01 9.412e-02 6.517e-02
2.878e-01 9.211e-02], Class Predicted = 1
X252 = [1.385e+01 1.518e+01 8.899e+01 5.874e+02 9.516e-02 7.688e-02 4.479e-02
3.711e-02 2.110e-01 5.853e-02 2.479e-01 9.195e-01 1.830e+00 1.941e+01
4.235e-03 1.541e-02 1.457e-02 1.043e-02 1.528e-02 1.593e-03 1.498e+01
2.174e+01 9.837e+01 6.700e+02 1.185e-01 1.724e-01 1.456e-01 9.993e-02
2.955e-01 6.912e-02], Class Predicted = 1
X253 = [1.705e+01 1.908e+01 1.134e+02 8.950e+02 1.141e-01 1.572e-01 1.910e-01
1.090e-01 2.131e-01 6.325e-02 2.959e-01 6.790e-01 2.153e+00 3.198e+01
5.532e-03 2.008e-02 3.055e-02 1.384e-02 1.177e-02 2.336e-03 1.959e+01
2.489e+01 1.335e+02 1.189e+03 1.703e-01 3.934e-01 5.018e-01 2.543e-01
3.109e-01 9.061e-02], Class Predicted = 0
X254 = [1.831e+01 2.058e+01 1.208e+02 1.052e+03 1.068e-01 1.248e-01 1.569e-01
9.451e-02 1.860e-01 5.941e-02 5.449e-01 9.225e-01 3.218e+00 6.736e+01
6.176e-03 1.877e-02 2.913e-02 1.046e-02 1.559e-02 2.725e-03 2.186e+01
2.620e+01 1.422e+02 1.493e+03 1.492e-01 2.536e-01 3.759e-01 1.510e-01
3.074e-01 7.863e-02], Class Predicted = 0
X255 = [1.504e+01 1.674e+01 9.873e+01 6.894e+02 9.883e-02 1.364e-01 7.721e-02
6.142e-02 1.668e-01 6.869e-02 3.720e-01 8.423e-01 2.304e+00 3.484e+01
4.123e-03 1.819e-02 1.996e-02 1.004e-02 1.055e-02 3.237e-03 1.676e+01
2.043e+01 1.097e+02 8.569e+02 1.135e-01 2.176e-01 1.856e-01 1.018e-01
2.177e-01 8.549e-02], Class Predicted = 1
X256 = [1.044e+01 1.546e+01 6.662e+01 3.296e+02 1.053e-01 7.722e-02 6.643e-03
1.216e-02 1.788e-01 6.450e-02 1.913e-01 9.027e-01 1.208e+00 1.186e+01
6.513e-03 8.061e-03 2.817e-03 4.972e-03 1.502e-02 2.821e-03 1.152e+01
1.980e+01 7.347e+01 3.954e+02 1.341e-01 1.153e-01 2.639e-02 4.464e-02
2.615e-01 8.269e-02], Class Predicted = 1
X257 = [1.882e+01 2.197e+01 1.237e+02 1.110e+03 1.018e-01 1.389e-01 1.594e-01
8.744e-02 1.943e-01 6.132e-02 8.191e-01 1.931e+00 4.493e+00 1.039e+02
8.074e-03 4.088e-02 5.321e-02 1.834e-02 2.383e-02 4.515e-03 2.266e+01
3.093e+01 1.453e+02 1.603e+03 1.390e-01 3.463e-01 3.912e-01 1.708e-01
3.007e-01 8.314e-02], Class Predicted = 0
X258 = [1.364e+01 1.634e+01 8.721e+01 5.718e+02 7.685e-02 6.059e-02 1.857e-02
1.723e-02 1.353e-01 5.953e-02 1.872e-01 9.234e-01 1.449e+00 1.455e+01
4.477e-03 1.177e-02 1.079e-02 7.956e-03 1.325e-02 2.551e-03 1.467e+01
2.319e+01 9.608e+01 6.567e+02 1.089e-01 1.582e-01 1.050e-01 8.586e-02

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2.346e-01 8.025e-02], Class Predicted = 1
 X259 = [1.487e+01 1.667e+01 9.864e+01 6.825e+02 1.162e-01 1.649e-01 1.690e-01
 8.923e-02 2.157e-01 6.768e-02 4.266e-01 9.489e-01 2.989e+00 4.118e+01
 6.985e-03 2.563e-02 3.011e-02 1.271e-02 1.602e-02 3.884e-03 1.881e+01
 2.737e+01 1.271e+02 1.095e+03 1.878e-01 4.480e-01 4.704e-01 2.027e-01
 3.585e-01 1.065e-01], Class Predicted = 0
 X260 = [1.624e+01 1.877e+01 1.088e+02 8.051e+02 1.066e-01 1.802e-01 1.948e-01
 9.052e-02 1.876e-01 6.684e-02 2.873e-01 9.173e-01 2.464e+00 2.809e+01
 4.563e-03 3.481e-02 3.872e-02 1.209e-02 1.388e-02 4.081e-03 1.855e+01
 2.509e+01 1.269e+02 1.031e+03 1.365e-01 4.706e-01 5.026e-01 1.732e-01
 2.770e-01 1.063e-01], Class Predicted = 0
 X261 = [1.317e+01 1.866e+01 8.598e+01 5.346e+02 1.158e-01 1.231e-01 1.226e-01
 7.340e-02 2.128e-01 6.777e-02 2.871e-01 8.937e-01 1.897e+00 2.425e+01
 6.532e-03 2.336e-02 2.905e-02 1.215e-02 1.743e-02 3.643e-03 1.567e+01
 2.795e+01 1.028e+02 7.594e+02 1.786e-01 4.166e-01 5.006e-01 2.088e-01
 3.900e-01 1.179e-01], Class Predicted = 1
 X262 = [1.231e+01 1.652e+01 7.919e+01 4.709e+02 9.172e-02 6.829e-02 3.372e-02
 2.272e-02 1.720e-01 5.914e-02 2.505e-01 1.025e+00 1.740e+00 1.968e+01
 4.854e-03 1.819e-02 1.826e-02 7.965e-03 1.386e-02 2.304e-03 1.411e+01
 2.321e+01 8.971e+01 6.111e+02 1.176e-01 1.843e-01 1.703e-01 8.660e-02
 2.618e-01 7.609e-02], Class Predicted = 1
 X263 = [9.738e+00 1.197e+01 6.124e+01 2.885e+02 9.250e-02 4.102e-02 0.000e+00
 0.000e+00 1.903e-01 6.422e-02 1.988e-01 4.960e-01 1.218e+00 1.226e+01
 6.040e-03 5.656e-03 0.000e+00 0.000e+00 2.277e-02 3.220e-03 1.062e+01
 1.410e+01 6.653e+01 3.429e+02 1.234e-01 7.204e-02 0.000e+00 0.000e+00
 3.105e-01 8.151e-02], Class Predicted = 1
 X264 = [1.398e+01 1.962e+01 9.112e+01 5.995e+02 1.060e-01 1.133e-01 1.126e-01
 6.463e-02 1.669e-01 6.544e-02 2.208e-01 9.533e-01 1.602e+00 1.885e+01
 5.314e-03 1.791e-02 2.185e-02 9.567e-03 1.223e-02 2.846e-03 1.704e+01
 3.080e+01 1.139e+02 8.693e+02 1.613e-01 3.568e-01 4.069e-01 1.827e-01
 3.179e-01 1.055e-01], Class Predicted = 0
 X265 = [1.635e+01 2.329e+01 1.090e+02 8.404e+02 9.742e-02 1.497e-01 1.811e-01
 8.773e-02 2.175e-01 6.218e-02 4.312e-01 1.022e+00 2.972e+00 4.550e+01
 5.635e-03 3.917e-02 6.072e-02 1.656e-02 3.197e-02 4.085e-03 1.938e+01
 3.103e+01 1.293e+02 1.165e+03 1.415e-01 4.665e-01 7.087e-01 2.248e-01
 4.824e-01 9.614e-02], Class Predicted = 0
 X266 = [1.382e+01 2.449e+01 9.233e+01 5.959e+02 1.162e-01 1.681e-01 1.357e-01
 6.759e-02 2.275e-01 7.237e-02 4.751e-01 1.528e+00 2.974e+00 3.905e+01
 9.680e-03 3.856e-02 3.476e-02 1.616e-02 2.434e-02 6.995e-03 1.601e+01
 3.294e+01 1.060e+02 7.880e+02 1.794e-01 3.966e-01 3.381e-01 1.521e-01
 3.651e-01 1.183e-01], Class Predicted = 1
 X267 = [1.512e+01 1.668e+01 9.878e+01 7.166e+02 8.876e-02 9.588e-02 7.550e-02
 4.079e-02 1.594e-01 5.986e-02 2.711e-01 3.621e-01 1.974e+00 2.644e+01
 5.472e-03 1.919e-02 2.039e-02 8.260e-03 1.523e-02 2.881e-03 1.777e+01
 2.024e+01 1.177e+02 9.895e+02 1.491e-01 3.331e-01 3.327e-01 1.252e-01
 3.415e-01 9.740e-02], Class Predicted = 1
 X268 = [1.916e+01 2.660e+01 1.262e+02 1.138e+03 1.020e-01 1.453e-01 1.921e-01
 9.664e-02 1.902e-01 6.220e-02 6.361e-01 1.001e+00 4.321e+00 6.965e+01
 7.392e-03 2.449e-02 3.988e-02 1.293e-02 1.435e-02 3.446e-03 2.372e+01
 3.590e+01 1.598e+02 1.724e+03 1.782e-01 3.841e-01 5.754e-01 1.872e-01
 3.258e-01 9.720e-02], Class Predicted = 0
 X269 = [1.578e+01 1.789e+01 1.036e+02 7.810e+02 9.710e-02 1.292e-01 9.954e-02
 6.606e-02 1.842e-01 6.082e-02 5.058e-01 9.849e-01 3.564e+00 5.416e+01
 5.771e-03 4.061e-02 2.791e-02 1.282e-02 2.008e-02 4.144e-03 2.042e+01
 2.728e+01 1.365e+02 1.299e+03 1.396e-01 5.609e-01 3.965e-01 1.810e-01
 3.792e-01 1.048e-01], Class Predicted = 0
 X270 = [1.185e+01 1.746e+01 7.554e+01 4.327e+02 8.372e-02 5.642e-02 2.688e-02
 2.280e-02 1.875e-01 5.715e-02 2.070e-01 1.238e+00 1.234e+00 1.388e+01
 7.595e-03 1.500e-02 1.412e-02 8.578e-03 1.792e-02 1.784e-03 1.306e+01
 2.575e+01 8.435e+01 5.178e+02 1.369e-01 1.758e-01 1.316e-01 9.140e-02
 3.101e-01 7.007e-02], Class Predicted = 1
 X271 = [1.462e+01 2.402e+01 9.457e+01 6.627e+02 8.974e-02 8.606e-02 3.102e-02
 2.957e-02 1.685e-01 5.866e-02 3.721e-01 1.111e+00 2.279e+00 3.376e+01
 4.868e-03 1.818e-02 1.121e-02 8.606e-03 2.085e-02 2.893e-03 1.611e+01
 2.911e+01 1.029e+02 8.037e+02 1.115e-01 1.766e-01 9.189e-02 6.946e-02
 2.522e-01 7.246e-02], Class Predicted = 1
 X272 = [1.364e+01 1.560e+01 8.738e+01 5.753e+02 9.423e-02 6.630e-02 4.705e-02
 3.731e-02 1.717e-01 5.660e-02 3.242e-01 6.612e-01 1.996e+00 2.719e+01
 6.470e-03 1.248e-02 1.810e-02 1.103e-02 1.898e-02 1.794e-03 1.485e+01

1.905e+01 9.411e+01 6.834e+02 1.278e-01 1.291e-01 1.533e-01 9.222e-02
 2.530e-01 6.510e-02], Class Predicted = 1
 X273 = [1.865e+01 1.760e+01 1.237e+02 1.076e+03 1.099e-01 1.686e-01 1.974e-01
 1.009e-01 1.907e-01 6.049e-02 6.289e-01 6.633e-01 4.293e+00 7.156e+01
 6.294e-03 3.994e-02 5.554e-02 1.695e-02 2.428e-02 3.535e-03 2.282e+01
 2.132e+01 1.506e+02 1.567e+03 1.679e-01 5.090e-01 7.345e-01 2.378e-01
 3.799e-01 9.185e-02], Class Predicted = 0
 X274 = [2.463e+01 2.160e+01 1.655e+02 1.841e+03 1.030e-01 2.106e-01 2.310e-01
 1.471e-01 1.991e-01 6.739e-02 9.915e-01 9.004e-01 7.050e+00 1.399e+02
 4.989e-03 3.212e-02 3.571e-02 1.597e-02 1.879e-02 4.760e-03 2.992e+01
 2.693e+01 2.057e+02 2.642e+03 1.342e-01 4.188e-01 4.658e-01 2.475e-01
 3.157e-01 9.671e-02], Class Predicted = 0
 X275 = [1.190e+01 1.465e+01 7.811e+01 4.328e+02 1.152e-01 1.296e-01 3.710e-02
 3.003e-02 1.995e-01 7.839e-02 3.962e-01 6.538e-01 3.021e+00 2.503e+01
 1.017e-02 4.741e-02 2.789e-02 1.110e-02 3.127e-02 9.423e-03 1.315e+01
 1.651e+01 8.626e+01 5.096e+02 1.424e-01 2.517e-01 9.420e-02 6.042e-02
 2.727e-01 1.036e-01], Class Predicted = 1
 X276 = [1.345e+01 1.830e+01 8.660e+01 5.551e+02 1.022e-01 8.165e-02 3.974e-02
 2.780e-02 1.638e-01 5.710e-02 2.950e-01 1.373e+00 2.099e+00 2.522e+01
 5.884e-03 1.491e-02 1.872e-02 9.366e-03 1.884e-02 1.817e-03 1.510e+01
 2.594e+01 9.759e+01 6.994e+02 1.339e-01 1.751e-01 1.381e-01 7.911e-02
 2.678e-01 6.603e-02], Class Predicted = 1
 X277 = [1.246e+01 1.989e+01 8.043e+01 4.713e+02 8.451e-02 1.014e-01 6.830e-02
 3.099e-02 1.781e-01 6.249e-02 3.642e-01 1.040e+00 2.579e+00 2.832e+01
 6.530e-03 3.369e-02 4.712e-02 1.403e-02 2.740e-02 4.651e-03 1.346e+01
 2.307e+01 8.813e+01 5.513e+02 1.050e-01 2.158e-01 1.904e-01 7.625e-02
 2.685e-01 7.764e-02], Class Predicted = 1
 X278 = [1.746e+01 3.928e+01 1.134e+02 9.206e+02 9.812e-02 1.298e-01 1.417e-01
 8.811e-02 1.809e-01 5.966e-02 5.366e-01 8.561e-01 3.002e+00 4.900e+01
 4.860e-03 2.785e-02 2.602e-02 1.374e-02 1.226e-02 2.759e-03 2.251e+01
 4.487e+01 1.412e+02 1.408e+03 1.365e-01 3.735e-01 3.241e-01 2.066e-01
 2.853e-01 8.496e-02], Class Predicted = 0
 X279 = [1.154e+01 1.444e+01 7.465e+01 4.029e+02 9.984e-02 1.120e-01 6.737e-02
 2.594e-02 1.818e-01 6.782e-02 2.784e-01 1.768e+00 1.628e+00 2.086e+01
 1.215e-02 4.112e-02 5.553e-02 1.494e-02 1.840e-02 5.512e-03 1.226e+01
 1.968e+01 7.878e+01 4.578e+02 1.345e-01 2.118e-01 1.797e-01 6.918e-02
 2.329e-01 8.134e-02], Class Predicted = 1
 X280 = [1.822e+01 1.887e+01 1.187e+02 1.027e+03 9.746e-02 1.117e-01 1.130e-01
 7.950e-02 1.807e-01 5.664e-02 4.041e-01 5.503e-01 2.547e+00 4.890e+01
 4.821e-03 1.659e-02 2.408e-02 1.143e-02 1.275e-02 2.451e-03 2.184e+01
 2.500e+01 1.409e+02 1.485e+03 1.434e-01 2.763e-01 3.853e-01 1.776e-01
 2.812e-01 8.198e-02], Class Predicted = 0
 X281 = [1.245e+01 1.570e+01 8.257e+01 4.771e+02 1.278e-01 1.700e-01 1.578e-01
 8.089e-02 2.087e-01 7.613e-02 3.345e-01 8.902e-01 2.217e+00 2.719e+01
 7.510e-03 3.345e-02 3.672e-02 1.137e-02 2.165e-02 5.082e-03 1.547e+01
 2.375e+01 1.034e+02 7.416e+02 1.791e-01 5.249e-01 5.355e-01 1.741e-01
 3.985e-01 1.244e-01], Class Predicted = 1
 X282 = [9.042e+00 1.890e+01 6.007e+01 2.445e+02 9.968e-02 1.972e-01 1.975e-01
 4.908e-02 2.330e-01 8.743e-02 4.653e-01 1.911e+00 3.769e+00 2.420e+01
 9.845e-03 6.590e-02 1.027e-01 2.527e-02 3.491e-02 7.877e-03 1.006e+01
 2.340e+01 6.862e+01 2.971e+02 1.221e-01 3.748e-01 4.609e-01 1.145e-01
 3.135e-01 1.055e-01], Class Predicted = 1
 X283 = [1.246e+01 1.283e+01 7.883e+01 4.773e+02 7.372e-02 4.043e-02 7.173e-03
 1.149e-02 1.613e-01 6.013e-02 3.276e-01 1.486e+00 2.108e+00 2.460e+01
 1.039e-02 1.003e-02 6.416e-03 7.895e-03 2.869e-02 4.821e-03 1.319e+01
 1.636e+01 8.324e+01 5.340e+02 9.439e-02 6.477e-02 1.674e-02 2.680e-02
 2.280e-01 7.028e-02], Class Predicted = 1
 X284 = [1.575e+01 1.922e+01 1.071e+02 7.586e+02 1.243e-01 2.364e-01 2.914e-01
 1.242e-01 2.375e-01 7.603e-02 5.204e-01 1.324e+00 3.477e+00 5.122e+01
 9.329e-03 6.559e-02 9.953e-02 2.283e-02 5.543e-02 7.330e-03 1.736e+01
 2.417e+01 1.194e+02 9.153e+02 1.550e-01 5.046e-01 6.872e-01 2.135e-01
 4.245e-01 1.050e-01], Class Predicted = 0
 X285 = [1.754e+01 1.932e+01 1.151e+02 9.516e+02 8.968e-02 1.198e-01 1.036e-01
 7.488e-02 1.506e-01 5.491e-02 3.971e-01 8.282e-01 3.088e+00 4.073e+01
 6.090e-03 2.569e-02 2.713e-02 1.345e-02 1.594e-02 2.658e-03 2.042e+01
 2.584e+01 1.395e+02 1.239e+03 1.381e-01 3.420e-01 3.508e-01 1.939e-01
 2.928e-01 7.867e-02], Class Predicted = 0
 X286 = [1.126e+01 1.983e+01 7.130e+01 3.881e+02 8.511e-02 4.413e-02 5.067e-03
 5.664e-03 1.637e-01 6.343e-02 1.344e-01 1.083e+00 9.812e-01 9.332e+00

4.200e-03 5.900e-03 3.846e-03 4.065e-03 1.487e-02 2.295e-03 1.193e+01
 2.643e+01 7.638e+01 4.359e+02 1.108e-01 7.723e-02 2.533e-02 2.832e-02
 2.557e-01 7.613e-02], Class Predicted = 1
 X287 = [1.458e+01 2.153e+01 9.741e+01 6.448e+02 1.054e-01 1.868e-01 1.425e-01
 8.783e-02 2.252e-01 6.924e-02 2.545e-01 9.832e-01 2.110e+00 2.105e+01
 4.452e-03 3.055e-02 2.681e-02 1.352e-02 1.454e-02 3.711e-03 1.762e+01
 3.321e+01 1.224e+02 8.969e+02 1.525e-01 6.643e-01 5.539e-01 2.701e-01
 4.264e-01 1.275e-01], Class Predicted = 0
 X288 = [1.184e+01 1.894e+01 7.551e+01 4.280e+02 8.871e-02 6.900e-02 2.669e-02
 1.393e-02 1.533e-01 6.057e-02 2.222e-01 8.652e-01 1.444e+00 1.712e+01
 5.517e-03 1.727e-02 2.045e-02 6.747e-03 1.616e-02 2.922e-03 1.330e+01
 2.499e+01 8.522e+01 5.463e+02 1.280e-01 1.880e-01 1.471e-01 6.913e-02
 2.535e-01 7.993e-02], Class Predicted = 1
 X289 = [1.088e+01 1.562e+01 7.041e+01 3.589e+02 1.007e-01 1.069e-01 5.115e-02
 1.571e-02 1.861e-01 6.837e-02 1.482e-01 5.380e-01 1.301e+00 9.597e+00
 4.474e-03 3.093e-02 2.757e-02 6.691e-03 1.212e-02 4.672e-03 1.194e+01
 1.935e+01 8.078e+01 4.331e+02 1.332e-01 3.898e-01 3.365e-01 7.966e-02
 2.581e-01 1.080e-01], Class Predicted = 1
 X290 = [1.232e+01 1.239e+01 7.885e+01 4.641e+02 1.028e-01 6.981e-02 3.987e-02
 3.700e-02 1.959e-01 5.955e-02 2.360e-01 6.656e-01 1.670e+00 1.743e+01
 8.045e-03 1.180e-02 1.683e-02 1.241e-02 1.924e-02 2.248e-03 1.350e+01
 1.564e+01 8.697e+01 5.491e+02 1.385e-01 1.266e-01 1.242e-01 9.391e-02
 2.827e-01 6.771e-02], Class Predicted = 1
 X291 = [1.288e+01 2.892e+01 8.250e+01 5.143e+02 8.123e-02 5.824e-02 6.195e-02
 2.343e-02 1.566e-01 5.708e-02 2.116e-01 1.360e+00 1.502e+00 1.683e+01
 8.412e-03 2.153e-02 3.898e-02 7.620e-03 1.695e-02 2.801e-03 1.389e+01
 3.574e+01 8.884e+01 5.957e+02 1.227e-01 1.620e-01 2.439e-01 6.493e-02
 2.372e-01 7.242e-02], Class Predicted = 1
 X292 = [1.927e+01 2.647e+01 1.279e+02 1.162e+03 9.401e-02 1.719e-01 1.657e-01
 7.593e-02 1.853e-01 6.261e-02 5.558e-01 6.062e-01 3.528e+00 6.817e+01
 5.015e-03 3.318e-02 3.497e-02 9.643e-03 1.543e-02 3.896e-03 2.415e+01
 3.090e+01 1.614e+02 1.813e+03 1.509e-01 6.590e-01 6.091e-01 1.785e-01
 3.672e-01 1.123e-01], Class Predicted = 0
 X293 = [1.194e+01 2.076e+01 7.787e+01 4.410e+02 8.605e-02 1.011e-01 6.574e-02
 3.791e-02 1.588e-01 6.766e-02 2.742e-01 1.390e+00 3.198e+00 2.191e+01
 6.719e-03 5.156e-02 4.387e-02 1.633e-02 1.872e-02 8.015e-03 1.324e+01
 2.729e+01 9.220e+01 5.461e+02 1.116e-01 2.813e-01 2.365e-01 1.155e-01
 2.465e-01 9.981e-02], Class Predicted = 1
 X294 = [1.799e+01 2.066e+01 1.178e+02 9.917e+02 1.036e-01 1.304e-01 1.201e-01
 8.824e-02 1.992e-01 6.069e-02 4.537e-01 8.733e-01 3.061e+00 4.981e+01
 7.231e-03 2.772e-02 2.509e-02 1.480e-02 1.414e-02 3.336e-03 2.108e+01
 2.541e+01 1.381e+02 1.349e+03 1.482e-01 3.735e-01 3.301e-01 1.974e-01
 3.060e-01 8.503e-02], Class Predicted = 0
 X295 = [1.354e+01 1.436e+01 8.746e+01 5.663e+02 9.779e-02 8.129e-02 6.664e-02
 4.781e-02 1.885e-01 5.766e-02 2.699e-01 7.886e-01 2.058e+00 2.356e+01
 8.462e-03 1.460e-02 2.387e-02 1.315e-02 1.980e-02 2.300e-03 1.511e+01
 1.926e+01 9.970e+01 7.112e+02 1.440e-01 1.773e-01 2.390e-01 1.288e-01
 2.977e-01 7.259e-02], Class Predicted = 1
 X296 = [2.351e+01 2.427e+01 1.551e+02 1.747e+03 1.069e-01 1.283e-01 2.308e-01
 1.410e-01 1.797e-01 5.506e-02 1.009e+00 9.245e-01 6.462e+00 1.641e+02
 6.292e-03 1.971e-02 3.582e-02 1.301e-02 1.479e-02 3.118e-03 3.067e+01
 3.073e+01 2.024e+02 2.906e+03 1.515e-01 2.678e-01 4.819e-01 2.089e-01
 2.593e-01 7.738e-02], Class Predicted = 0
 X297 = [1.277e+01 2.141e+01 8.202e+01 5.074e+02 8.749e-02 6.601e-02 3.112e-02
 2.864e-02 1.694e-01 6.287e-02 7.311e-01 1.748e+00 5.118e+00 5.365e+01
 4.571e-03 1.790e-02 2.176e-02 1.757e-02 3.373e-02 5.875e-03 1.375e+01
 2.350e+01 8.904e+01 5.795e+02 9.388e-02 8.978e-02 5.186e-02 4.773e-02
 2.179e-01 6.871e-02], Class Predicted = 1
 X298 = [1.299e+01 1.423e+01 8.408e+01 5.143e+02 9.462e-02 9.965e-02 3.738e-02
 2.098e-02 1.652e-01 7.238e-02 1.814e-01 6.412e-01 9.219e-01 1.441e+01
 5.231e-03 2.305e-02 3.113e-02 7.315e-03 1.639e-02 5.701e-03 1.372e+01
 1.691e+01 8.738e+01 5.760e+02 1.142e-01 1.975e-01 1.450e-01 5.850e-02
 2.432e-01 1.009e-01], Class Predicted = 1
 X299 = [1.402e+01 1.566e+01 8.959e+01 6.065e+02 7.966e-02 5.581e-02 2.087e-02
 2.652e-02 1.589e-01 5.586e-02 2.142e-01 6.549e-01 1.606e+00 1.925e+01
 4.837e-03 9.238e-03 9.213e-03 1.076e-02 1.171e-02 2.104e-03 1.491e+01
 1.931e+01 9.653e+01 6.889e+02 1.034e-01 1.017e-01 6.260e-02 8.216e-02
 2.136e-01 6.710e-02], Class Predicted = 1
 X300 = [1.277e+01 2.943e+01 8.135e+01 5.079e+02 8.276e-02 4.234e-02 1.997e-02

1.499e-02 1.539e-01 5.637e-02 2.409e-01 1.367e+00 1.477e+00 1.876e+01
 8.835e-03 1.233e-02 1.328e-02 9.305e-03 1.897e-02 1.726e-03 1.387e+01
 3.600e+01 8.810e+01 5.947e+02 1.234e-01 1.064e-01 8.653e-02 6.498e-02
 2.407e-01 6.484e-02], Class Predicted = 1
 X301 = [2.018e+01 1.954e+01 1.338e+02 1.250e+03 1.133e-01 1.489e-01 2.133e-01
 1.259e-01 1.724e-01 6.053e-02 4.331e-01 1.001e+00 3.008e+00 5.249e+01
 9.087e-03 2.715e-02 5.546e-02 1.910e-02 2.451e-02 4.005e-03 2.203e+01
 2.507e+01 1.460e+02 1.479e+03 1.665e-01 2.942e-01 5.308e-01 2.173e-01
 3.032e-01 8.075e-02], Class Predicted = 0
 X302 = [1.625e+01 1.951e+01 1.098e+02 8.158e+02 1.026e-01 1.893e-01 2.236e-01
 9.194e-02 2.151e-01 6.578e-02 3.147e-01 9.857e-01 3.070e+00 3.312e+01
 9.197e-03 5.470e-02 8.079e-02 2.215e-02 2.773e-02 6.355e-03 1.739e+01
 2.305e+01 1.221e+02 9.397e+02 1.377e-01 4.462e-01 5.897e-01 1.775e-01
 3.318e-01 9.136e-02], Class Predicted = 0
 X303 = [2.811e+01 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01
 1.595e-01 1.648e-01 5.525e-02 2.873e+00 1.476e+00 2.198e+01 5.256e+02
 1.345e-02 2.772e-02 6.389e-02 1.407e-02 4.783e-02 4.476e-03 2.811e+01
 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01 1.595e-01
 1.648e-01 5.525e-02], Class Predicted = 0
 X304 = [1.371e+01 1.868e+01 8.873e+01 5.710e+02 9.916e-02 1.070e-01 5.385e-02
 3.783e-02 1.714e-01 6.843e-02 3.191e-01 1.249e+00 2.284e+00 2.645e+01
 6.739e-03 2.251e-02 2.086e-02 1.352e-02 1.870e-02 3.747e-03 1.511e+01
 2.563e+01 9.943e+01 7.019e+02 1.425e-01 2.566e-01 1.935e-01 1.284e-01
 2.849e-01 9.031e-02], Class Predicted = 1
 X305 = [8.726e+00 1.583e+01 5.584e+01 2.309e+02 1.150e-01 8.201e-02 4.132e-02
 1.924e-02 1.649e-01 7.633e-02 1.665e-01 5.864e-01 1.354e+00 8.966e+00
 8.261e-03 2.213e-02 3.259e-02 1.040e-02 1.708e-02 3.806e-03 9.628e+00
 1.962e+01 6.448e+01 2.844e+02 1.724e-01 2.364e-01 2.456e-01 1.050e-01
 2.926e-01 1.017e-01], Class Predicted = 1
 X306 = [1.136e+01 1.757e+01 7.249e+01 3.998e+02 8.858e-02 5.313e-02 2.783e-02
 2.100e-02 1.601e-01 5.913e-02 1.916e-01 1.555e+00 1.359e+00 1.366e+01
 5.391e-03 9.947e-03 1.163e-02 5.872e-03 1.341e-02 1.659e-03 1.305e+01
 3.632e+01 8.507e+01 5.213e+02 1.453e-01 1.622e-01 1.811e-01 8.698e-02
 2.973e-01 7.745e-02], Class Predicted = 1
 X307 = [1.130e+01 1.819e+01 7.393e+01 3.894e+02 9.592e-02 1.325e-01 1.548e-01
 2.854e-02 2.054e-01 7.669e-02 2.428e-01 1.642e+00 2.369e+00 1.639e+01
 6.663e-03 5.914e-02 8.880e-02 1.314e-02 1.995e-02 8.675e-03 1.258e+01
 2.796e+01 8.716e+01 4.729e+02 1.347e-01 4.848e-01 7.436e-01 1.218e-01
 3.308e-01 1.297e-01], Class Predicted = 1
 X308 = [1.350e+01 1.271e+01 8.569e+01 5.662e+02 7.376e-02 3.614e-02 2.758e-03
 4.419e-03 1.365e-01 5.335e-02 2.244e-01 6.864e-01 1.509e+00 2.039e+01
 3.338e-03 3.746e-03 2.030e-03 3.242e-03 1.480e-02 1.566e-03 1.497e+01
 1.694e+01 9.548e+01 6.987e+02 9.023e-02 5.836e-02 1.379e-02 2.210e-02
 2.267e-01 6.192e-02], Class Predicted = 1
 X309 = [1.106e+01 1.483e+01 7.031e+01 3.782e+02 7.741e-02 4.768e-02 2.712e-02
 7.246e-03 1.535e-01 6.214e-02 1.855e-01 6.881e-01 1.263e+00 1.298e+01
 4.259e-03 1.469e-02 1.940e-02 4.168e-03 1.191e-02 3.537e-03 1.268e+01
 2.035e+01 8.079e+01 4.967e+02 1.120e-01 1.879e-01 2.079e-01 5.556e-02
 2.590e-01 9.158e-02], Class Predicted = 1
 X310 = [1.048e+01 1.986e+01 6.672e+01 3.377e+02 1.070e-01 5.971e-02 4.831e-02
 3.070e-02 1.737e-01 6.440e-02 3.719e-01 2.612e+00 2.517e+00 2.322e+01
 1.604e-02 1.386e-02 1.865e-02 1.133e-02 3.476e-02 3.560e-03 1.148e+01
 2.946e+01 7.368e+01 4.028e+02 1.515e-01 1.026e-01 1.181e-01 6.736e-02
 2.883e-01 7.748e-02], Class Predicted = 1
 X311 = [1.845e+01 2.191e+01 1.202e+02 1.075e+03 9.430e-02 9.709e-02 1.153e-01
 6.847e-02 1.692e-01 5.727e-02 5.959e-01 1.202e+00 3.766e+00 6.835e+01
 6.001e-03 1.422e-02 2.855e-02 9.148e-03 1.492e-02 2.205e-03 2.252e+01
 3.139e+01 1.456e+02 1.590e+03 1.465e-01 2.275e-01 3.965e-01 1.379e-01
 3.109e-01 7.610e-02], Class Predicted = 0
 X312 = [1.471e+01 2.159e+01 9.555e+01 6.569e+02 1.137e-01 1.365e-01 1.293e-01
 8.123e-02 2.027e-01 6.758e-02 4.226e-01 1.150e+00 2.735e+00 4.009e+01
 3.659e-03 2.855e-02 2.572e-02 1.272e-02 1.817e-02 4.108e-03 1.787e+01
 3.070e+01 1.157e+02 9.855e+02 1.368e-01 4.290e-01 3.587e-01 1.834e-01
 3.698e-01 1.094e-01], Class Predicted = 1
 X313 = [1.702e+01 2.398e+01 1.128e+02 8.993e+02 1.197e-01 1.496e-01 2.417e-01
 1.203e-01 2.248e-01 6.382e-02 6.009e-01 1.398e+00 3.999e+00 6.778e+01
 8.268e-03 3.082e-02 5.042e-02 1.112e-02 2.102e-02 3.854e-03 2.088e+01
 3.209e+01 1.361e+02 1.344e+03 1.634e-01 3.559e-01 5.588e-01 1.847e-01
 3.530e-01 8.482e-02], Class Predicted = 0

X314 = [2.057e+01 1.777e+01 1.329e+02 1.326e+03 8.474e-02 7.864e-02 8.690e-02
 7.017e-02 1.812e-01 5.667e-02 5.435e-01 7.339e-01 3.398e+00 7.408e+01
 5.225e-03 1.308e-02 1.860e-02 1.340e-02 1.389e-02 3.532e-03 2.499e+01
 2.341e+01 1.588e+02 1.956e+03 1.238e-01 1.866e-01 2.416e-01 1.860e-01
 2.750e-01 8.902e-02], Class Predicted = 0
 X315 = [1.163e+01 2.929e+01 7.487e+01 4.151e+02 9.357e-02 8.574e-02 7.160e-02
 2.017e-02 1.799e-01 6.166e-02 3.135e-01 2.426e+00 2.150e+00 2.313e+01
 9.861e-03 2.418e-02 4.275e-02 9.215e-03 2.475e-02 2.128e-03 1.312e+01
 3.881e+01 8.604e+01 5.278e+02 1.406e-01 2.031e-01 2.923e-01 6.835e-02
 2.884e-01 7.220e-02], Class Predicted = 1
 X316 = [1.080e+01 9.710e+00 6.877e+01 3.576e+02 9.594e-02 5.736e-02 2.531e-02
 1.698e-02 1.381e-01 6.400e-02 1.728e-01 4.064e-01 1.126e+00 1.148e+01
 7.809e-03 9.816e-03 1.099e-02 5.344e-03 1.254e-02 2.120e-03 1.160e+01
 1.202e+01 7.366e+01 4.140e+02 1.436e-01 1.257e-01 1.047e-01 4.603e-02
 2.090e-01 7.699e-02], Class Predicted = 1
 X317 = [1.420e+01 2.053e+01 9.241e+01 6.184e+02 8.931e-02 1.108e-01 5.063e-02
 3.058e-02 1.506e-01 6.009e-02 3.478e-01 1.018e+00 2.749e+00 3.101e+01
 4.107e-03 3.288e-02 2.821e-02 1.350e-02 1.610e-02 2.744e-03 1.645e+01
 2.726e+01 1.121e+02 8.285e+02 1.153e-01 3.429e-01 2.512e-01 1.339e-01
 2.534e-01 7.858e-02], Class Predicted = 0
 X318 = [1.314e+01 2.074e+01 8.598e+01 5.369e+02 8.675e-02 1.089e-01 1.085e-01
 3.510e-02 1.562e-01 6.020e-02 3.152e-01 7.884e-01 2.312e+00 2.740e+01
 7.295e-03 3.179e-02 4.615e-02 1.254e-02 1.561e-02 3.230e-03 1.480e+01
 2.546e+01 1.009e+02 6.891e+02 1.351e-01 3.549e-01 4.504e-01 1.181e-01
 2.563e-01 8.174e-02], Class Predicted = 1
 X319 = [2.156e+01 2.239e+01 1.420e+02 1.479e+03 1.110e-01 1.159e-01 2.439e-01
 1.389e-01 1.726e-01 5.623e-02 1.176e+00 1.256e+00 7.673e+00 1.587e+02
 1.030e-02 2.891e-02 5.198e-02 2.454e-02 1.114e-02 4.239e-03 2.545e+01
 2.640e+01 1.661e+02 2.027e+03 1.410e-01 2.113e-01 4.107e-01 2.216e-01
 2.060e-01 7.115e-02], Class Predicted = 0
 X320 = [1.018e+01 1.753e+01 6.512e+01 3.131e+02 1.061e-01 8.502e-02 1.768e-02
 1.915e-02 1.910e-01 6.908e-02 2.467e-01 1.217e+00 1.641e+00 1.505e+01
 7.899e-03 1.400e-02 8.534e-03 7.624e-03 2.637e-02 3.761e-03 1.117e+01
 2.284e+01 7.194e+01 3.756e+02 1.406e-01 1.440e-01 6.572e-02 5.575e-02
 3.055e-01 8.797e-02], Class Predicted = 1
 X321 = [1.205e+01 1.463e+01 7.804e+01 4.493e+02 1.031e-01 9.092e-02 6.592e-02
 2.749e-02 1.675e-01 6.043e-02 2.636e-01 7.294e-01 1.848e+00 1.987e+01
 5.488e-03 1.427e-02 2.322e-02 5.660e-03 1.428e-02 2.422e-03 1.376e+01
 2.070e+01 8.988e+01 5.826e+02 1.494e-01 2.156e-01 3.050e-01 6.548e-02
 2.747e-01 8.301e-02], Class Predicted = 1
 X322 = [1.152e+01 1.493e+01 7.387e+01 4.063e+02 1.013e-01 7.808e-02 4.328e-02
 2.929e-02 1.883e-01 6.168e-02 2.562e-01 1.038e+00 1.686e+00 1.862e+01
 6.662e-03 1.228e-02 2.105e-02 1.006e-02 1.677e-02 2.784e-03 1.265e+01
 2.119e+01 8.088e+01 4.918e+02 1.389e-01 1.582e-01 1.804e-01 9.608e-02
 2.664e-01 7.809e-02], Class Predicted = 1
 X323 = [1.171e+01 1.667e+01 7.472e+01 4.236e+02 1.051e-01 6.095e-02 3.592e-02
 2.600e-02 1.339e-01 5.945e-02 4.489e-01 2.508e+00 3.258e+00 3.437e+01
 6.578e-03 1.380e-02 2.662e-02 1.307e-02 1.359e-02 3.707e-03 1.333e+01
 2.548e+01 8.616e+01 5.467e+02 1.271e-01 1.028e-01 1.046e-01 6.968e-02
 1.712e-01 7.343e-02], Class Predicted = 1
 X324 = [1.877e+01 2.143e+01 1.229e+02 1.092e+03 9.116e-02 1.402e-01 1.060e-01
 6.090e-02 1.953e-01 6.083e-02 6.422e-01 1.530e+00 4.369e+00 8.825e+01
 7.548e-03 3.897e-02 3.914e-02 1.816e-02 2.168e-02 4.445e-03 2.454e+01
 3.437e+01 1.611e+02 1.873e+03 1.498e-01 4.827e-01 4.634e-01 2.048e-01
 3.679e-01 9.870e-02], Class Predicted = 0
 X325 = [1.349e+01 2.230e+01 8.691e+01 5.610e+02 8.752e-02 7.698e-02 4.751e-02
 3.384e-02 1.809e-01 5.718e-02 2.338e-01 1.353e+00 1.735e+00 2.020e+01
 4.455e-03 1.382e-02 2.095e-02 1.184e-02 1.641e-02 1.956e-03 1.515e+01
 3.182e+01 9.900e+01 6.988e+02 1.162e-01 1.711e-01 2.282e-01 1.282e-01
 2.871e-01 6.917e-02], Class Predicted = 1
 X326 = [1.113e+01 2.244e+01 7.149e+01 3.784e+02 9.566e-02 8.194e-02 4.824e-02
 2.257e-02 2.030e-01 6.552e-02 2.800e-01 1.467e+00 1.994e+00 1.785e+01
 3.495e-03 3.051e-02 3.445e-02 1.024e-02 2.912e-02 4.723e-03 1.202e+01
 2.826e+01 7.780e+01 4.366e+02 1.087e-01 1.782e-01 1.564e-01 6.413e-02
 3.169e-01 8.032e-02], Class Predicted = 1
 X327 = [1.296e+01 1.829e+01 8.418e+01 5.252e+02 7.351e-02 7.899e-02 4.057e-02
 1.883e-02 1.874e-01 5.899e-02 2.357e-01 1.299e+00 2.397e+00 2.021e+01
 3.629e-03 3.713e-02 3.452e-02 1.065e-02 2.632e-02 3.705e-03 1.413e+01
 2.461e+01 9.631e+01 6.219e+02 9.329e-02 2.318e-01 1.604e-01 6.608e-02

3.207e-01 7.247e-02], Class Predicted = 1
 X328 = [1.646e+01 2.011e+01 1.093e+02 8.329e+02 9.831e-02 1.556e-01 1.793e-01
 8.866e-02 1.794e-01 6.323e-02 3.037e-01 1.284e+00 2.482e+00 3.159e+01
 6.627e-03 4.094e-02 5.371e-02 1.813e-02 1.682e-02 4.584e-03 1.779e+01
 2.845e+01 1.235e+02 9.812e+02 1.415e-01 4.667e-01 5.862e-01 2.035e-01
 3.054e-01 9.519e-02], Class Predicted = 0
 X329 = [1.245e+01 1.641e+01 8.285e+01 4.767e+02 9.514e-02 1.511e-01 1.544e-01
 4.846e-02 2.082e-01 7.325e-02 3.921e-01 1.207e+00 5.004e+00 3.019e+01
 7.234e-03 7.471e-02 1.114e-01 2.721e-02 3.232e-02 9.627e-03 1.378e+01
 2.103e+01 9.782e+01 5.806e+02 1.175e-01 4.061e-01 4.896e-01 1.342e-01
 3.231e-01 1.034e-01], Class Predicted = 1
 X330 = [1.513e+01 2.981e+01 9.671e+01 7.195e+02 8.320e-02 4.605e-02 4.686e-02
 2.739e-02 1.852e-01 5.294e-02 4.681e-01 1.627e+00 3.043e+00 4.538e+01
 6.831e-03 1.427e-02 2.489e-02 9.087e-03 3.151e-02 1.750e-03 1.726e+01
 3.691e+01 1.101e+02 9.314e+02 1.148e-01 9.866e-02 1.547e-01 6.575e-02
 3.233e-01 6.165e-02], Class Predicted = 0
 X331 = [2.309e+01 1.983e+01 1.521e+02 1.682e+03 9.342e-02 1.275e-01 1.676e-01
 1.003e-01 1.505e-01 5.484e-02 1.291e+00 7.452e-01 9.635e+00 1.802e+02
 5.753e-03 3.356e-02 3.976e-02 2.156e-02 2.201e-02 2.897e-03 3.079e+01
 2.387e+01 2.115e+02 2.782e+03 1.199e-01 3.625e-01 3.794e-01 2.264e-01
 2.908e-01 7.277e-02], Class Predicted = 0
 X332 = [1.614e+01 1.486e+01 1.043e+02 8.000e+02 9.495e-02 8.501e-02 5.500e-02
 4.528e-02 1.735e-01 5.875e-02 2.387e-01 6.372e-01 1.729e+00 2.183e+01
 3.958e-03 1.246e-02 1.831e-02 8.747e-03 1.500e-02 1.621e-03 1.771e+01
 1.958e+01 1.159e+02 9.479e+02 1.206e-01 1.722e-01 2.310e-01 1.129e-01
 2.778e-01 7.012e-02], Class Predicted = 1
 X333 = [2.201e+01 2.190e+01 1.472e+02 1.482e+03 1.063e-01 1.954e-01 2.448e-01
 1.501e-01 1.824e-01 6.140e-02 1.008e+00 6.999e-01 7.561e+00 1.302e+02
 3.978e-03 2.821e-02 3.576e-02 1.471e-02 1.518e-02 3.796e-03 2.766e+01
 2.580e+01 1.950e+02 2.227e+03 1.294e-01 3.885e-01 4.756e-01 2.432e-01
 2.741e-01 8.574e-02], Class Predicted = 0
 X334 = [1.161e+01 1.602e+01 7.546e+01 4.082e+02 1.088e-01 1.168e-01 7.097e-02
 4.497e-02 1.886e-01 6.320e-02 2.456e-01 7.339e-01 1.667e+00 1.589e+01
 5.884e-03 2.005e-02 2.631e-02 1.304e-02 1.848e-02 1.982e-03 1.264e+01
 1.967e+01 8.193e+01 4.757e+02 1.415e-01 2.170e-01 2.302e-01 1.105e-01
 2.787e-01 7.427e-02], Class Predicted = 1
 X335 = [1.390e+01 1.924e+01 8.873e+01 6.029e+02 7.991e-02 5.326e-02 2.995e-02
 2.070e-02 1.579e-01 5.594e-02 3.316e-01 9.264e-01 2.056e+00 2.841e+01
 3.704e-03 1.082e-02 1.530e-02 6.275e-03 1.062e-02 2.217e-03 1.641e+01
 2.642e+01 1.044e+02 8.305e+02 1.064e-01 1.415e-01 1.673e-01 8.150e-02
 2.356e-01 7.603e-02], Class Predicted = 1
 X336 = [1.289e+01 1.570e+01 8.408e+01 5.166e+02 7.818e-02 9.580e-02 1.115e-01
 3.390e-02 1.432e-01 5.935e-02 2.913e-01 1.389e+00 2.347e+00 2.329e+01
 6.418e-03 3.961e-02 7.927e-02 1.774e-02 1.878e-02 3.696e-03 1.390e+01
 1.969e+01 9.212e+01 5.956e+02 9.926e-02 2.317e-01 3.344e-01 1.017e-01
 1.999e-01 7.127e-02], Class Predicted = 1
 X337 = [1.199e+01 2.489e+01 7.761e+01 4.413e+02 1.030e-01 9.218e-02 5.441e-02
 4.274e-02 1.820e-01 6.850e-02 2.623e-01 1.204e+00 1.865e+00 1.939e+01
 8.320e-03 2.025e-02 2.334e-02 1.665e-02 2.094e-02 3.674e-03 1.298e+01
 3.036e+01 8.448e+01 5.139e+02 1.311e-01 1.822e-01 1.609e-01 1.202e-01
 2.599e-01 8.251e-02], Class Predicted = 1
 X338 = [1.347e+01 1.406e+01 8.732e+01 5.463e+02 1.071e-01 1.155e-01 5.786e-02
 5.266e-02 1.779e-01 6.639e-02 1.588e-01 5.733e-01 1.102e+00 1.284e+01
 4.450e-03 1.452e-02 1.334e-02 8.791e-03 1.698e-02 2.787e-03 1.483e+01
 1.832e+01 9.494e+01 6.602e+02 1.393e-01 2.499e-01 1.848e-01 1.335e-01
 3.227e-01 9.326e-02], Class Predicted = 1
 X339 = [1.290e+01 1.592e+01 8.374e+01 5.122e+02 8.677e-02 9.509e-02 4.894e-02
 3.088e-02 1.778e-01 6.235e-02 2.143e-01 7.712e-01 1.689e+00 1.664e+01
 5.324e-03 1.563e-02 1.510e-02 7.584e-03 2.104e-02 1.887e-03 1.448e+01
 2.182e+01 9.717e+01 6.438e+02 1.312e-01 2.548e-01 2.090e-01 1.012e-01
 3.549e-01 8.118e-02], Class Predicted = 1
 X340 = [1.714e+01 1.640e+01 1.160e+02 9.127e+02 1.186e-01 2.276e-01 2.229e-01
 1.401e-01 3.040e-01 7.413e-02 1.046e+00 9.760e-01 7.276e+00 1.114e+02
 8.029e-03 3.799e-02 3.732e-02 2.397e-02 2.308e-02 7.444e-03 2.225e+01
 2.140e+01 1.524e+02 1.461e+03 1.545e-01 3.949e-01 3.853e-01 2.550e-01
 4.066e-01 1.059e-01], Class Predicted = 0
 X341 = [1.530e+01 2.527e+01 1.024e+02 7.324e+02 1.082e-01 1.697e-01 1.683e-01
 8.751e-02 1.926e-01 6.540e-02 4.390e-01 1.012e+00 3.498e+00 4.350e+01
 5.233e-03 3.057e-02 3.576e-02 1.083e-02 1.768e-02 2.967e-03 2.027e+01

3.671e+01 1.493e+02 1.269e+03 1.641e-01 6.110e-01 6.335e-01 2.024e-01
 4.027e-01 9.876e-02], Class Predicted = 0
 X342 = [2.573e+01 1.746e+01 1.742e+02 2.010e+03 1.149e-01 2.363e-01 3.368e-01
 1.913e-01 1.956e-01 6.121e-02 9.948e-01 8.509e-01 7.222e+00 1.531e+02
 6.369e-03 4.243e-02 4.266e-02 1.508e-02 2.335e-02 3.385e-03 3.313e+01
 2.358e+01 2.293e+02 3.234e+03 1.530e-01 5.937e-01 6.451e-01 2.756e-01
 3.690e-01 8.815e-02], Class Predicted = 0
 X343 = [1.340e+01 1.695e+01 8.548e+01 5.524e+02 7.937e-02 5.696e-02 2.181e-02
 1.473e-02 1.650e-01 5.701e-02 1.584e-01 6.124e-01 1.036e+00 1.322e+01
 4.394e-03 1.250e-02 1.451e-02 5.484e-03 1.291e-02 2.074e-03 1.473e+01
 2.170e+01 9.376e+01 6.635e+02 1.213e-01 1.676e-01 1.364e-01 6.987e-02
 2.741e-01 7.582e-02], Class Predicted = 1
 X344 = [1.143e+01 1.539e+01 7.306e+01 3.998e+02 9.639e-02 6.889e-02 3.503e-02
 2.875e-02 1.734e-01 5.865e-02 1.759e-01 9.938e-01 1.143e+00 1.267e+01
 5.133e-03 1.521e-02 1.434e-02 8.602e-03 1.501e-02 1.588e-03 1.232e+01
 2.202e+01 7.993e+01 4.620e+02 1.190e-01 1.648e-01 1.399e-01 8.476e-02
 2.676e-01 6.765e-02], Class Predicted = 1
 X345 = [1.316e+01 2.054e+01 8.406e+01 5.387e+02 7.335e-02 5.275e-02 1.800e-02
 1.256e-02 1.713e-01 5.888e-02 3.237e-01 1.473e+00 2.326e+00 2.607e+01
 7.802e-03 2.052e-02 1.341e-02 5.564e-03 2.086e-02 2.701e-03 1.450e+01
 2.846e+01 9.529e+01 6.483e+02 1.118e-01 1.646e-01 7.698e-02 4.195e-02
 2.687e-01 7.429e-02], Class Predicted = 1
 X346 = [1.617e+01 1.607e+01 1.063e+02 7.885e+02 9.880e-02 1.438e-01 6.651e-02
 5.397e-02 1.990e-01 6.572e-02 1.745e-01 4.890e-01 1.349e+00 1.491e+01
 4.510e-03 1.812e-02 1.951e-02 1.196e-02 1.934e-02 3.696e-03 1.697e+01
 1.914e+01 1.131e+02 8.615e+02 1.235e-01 2.550e-01 2.114e-01 1.251e-01
 3.153e-01 8.960e-02], Class Predicted = 1
 X347 = [1.849e+01 1.752e+01 1.213e+02 1.068e+03 1.012e-01 1.317e-01 1.491e-01
 9.183e-02 1.832e-01 6.697e-02 7.923e-01 1.045e+00 4.851e+00 9.577e+01
 7.974e-03 3.214e-02 4.435e-02 1.573e-02 1.617e-02 5.255e-03 2.275e+01
 2.288e+01 1.464e+02 1.600e+03 1.412e-01 3.089e-01 3.533e-01 1.663e-01
 2.510e-01 9.445e-02], Class Predicted = 0
 X348 = [1.340e+01 2.052e+01 8.864e+01 5.567e+02 1.106e-01 1.469e-01 1.445e-01
 8.172e-02 2.116e-01 7.325e-02 3.906e-01 9.306e-01 3.093e+00 3.367e+01
 5.414e-03 2.265e-02 3.452e-02 1.334e-02 1.705e-02 4.005e-03 1.641e+01
 2.966e+01 1.133e+02 8.444e+02 1.574e-01 3.856e-01 5.106e-01 2.051e-01
 3.585e-01 1.109e-01], Class Predicted = 0
 X349 = [1.894e+01 2.131e+01 1.236e+02 1.130e+03 9.009e-02 1.029e-01 1.080e-01
 7.951e-02 1.582e-01 5.461e-02 7.888e-01 7.975e-01 5.486e+00 9.605e+01
 4.444e-03 1.652e-02 2.269e-02 1.370e-02 1.386e-02 1.698e-03 2.486e+01
 2.658e+01 1.659e+02 1.866e+03 1.193e-01 2.336e-01 2.687e-01 1.789e-01
 2.551e-01 6.589e-02], Class Predicted = 0
 X350 = [1.286e+01 1.332e+01 8.282e+01 5.048e+02 1.134e-01 8.834e-02 3.800e-02
 3.400e-02 1.543e-01 6.476e-02 2.212e-01 1.042e+00 1.614e+00 1.657e+01
 5.910e-03 2.016e-02 1.902e-02 1.011e-02 1.202e-02 3.107e-03 1.404e+01
 2.108e+01 9.280e+01 5.995e+02 1.547e-01 2.231e-01 1.791e-01 1.155e-01
 2.382e-01 8.553e-02], Class Predicted = 1
 X351 = [1.125e+01 1.478e+01 7.138e+01 3.900e+02 8.306e-02 4.458e-02 9.737e-04
 2.941e-03 1.773e-01 6.081e-02 2.144e-01 9.961e-01 1.529e+00 1.507e+01
 5.617e-03 7.124e-03 9.737e-04 2.941e-03 1.700e-02 2.030e-03 1.276e+01
 2.206e+01 8.208e+01 4.927e+02 1.166e-01 9.794e-02 5.518e-03 1.667e-02
 2.815e-01 7.418e-02], Class Predicted = 1
 X352 = [1.166e+01 1.707e+01 7.370e+01 4.210e+02 7.561e-02 3.630e-02 8.306e-03
 1.162e-02 1.671e-01 5.731e-02 3.534e-01 6.724e-01 2.225e+00 2.603e+01
 6.583e-03 6.991e-03 5.949e-03 6.296e-03 2.216e-02 2.668e-03 1.328e+01
 1.974e+01 8.361e+01 5.425e+02 9.958e-02 6.476e-02 3.046e-02 4.262e-02
 2.731e-01 6.825e-02], Class Predicted = 1
 X353 = [1.184e+01 1.870e+01 7.793e+01 4.406e+02 1.109e-01 1.516e-01 1.218e-01
 5.182e-02 2.301e-01 7.799e-02 4.825e-01 1.030e+00 3.475e+00 4.100e+01
 5.551e-03 3.414e-02 4.205e-02 1.044e-02 2.273e-02 5.667e-03 1.682e+01
 2.812e+01 1.194e+02 8.887e+02 1.637e-01 5.775e-01 6.956e-01 1.546e-01
 4.761e-01 1.402e-01], Class Predicted = 0
 X354 = [1.160e+01 1.284e+01 7.434e+01 4.126e+02 8.983e-02 7.525e-02 4.196e-02
 3.350e-02 1.620e-01 6.582e-02 2.315e-01 5.391e-01 1.475e+00 1.575e+01
 6.153e-03 1.330e-02 1.693e-02 6.884e-03 1.651e-02 2.551e-03 1.306e+01
 1.716e+01 8.296e+01 5.125e+02 1.431e-01 1.851e-01 1.922e-01 8.449e-02
 2.772e-01 8.756e-02], Class Predicted = 1
 X355 = [1.305e+01 1.931e+01 8.261e+01 5.272e+02 8.060e-02 3.789e-02 6.920e-04
 4.167e-03 1.819e-01 5.501e-02 4.040e-01 1.214e+00 2.595e+00 3.296e+01

7.491e-03 8.593e-03 6.920e-04 4.167e-03 2.190e-02 2.990e-03 1.423e+01
 2.225e+01 9.024e+01 6.241e+02 1.021e-01 6.191e-02 1.845e-03 1.111e-02
 2.439e-01 6.289e-02], Class Predicted = 1
 X356 = [1.175e+01 2.018e+01 7.610e+01 4.198e+02 1.089e-01 1.141e-01 6.843e-02
 3.738e-02 1.993e-01 6.453e-02 5.018e-01 1.693e+00 3.926e+00 3.834e+01
 9.433e-03 2.405e-02 4.167e-02 1.152e-02 3.397e-02 5.061e-03 1.332e+01
 2.621e+01 8.891e+01 5.439e+02 1.358e-01 1.892e-01 1.956e-01 7.909e-02
 3.168e-01 7.987e-02], Class Predicted = 1
 X357 = [1.065e+01 2.522e+01 6.801e+01 3.470e+02 9.657e-02 7.234e-02 2.379e-02
 1.615e-02 1.897e-01 6.329e-02 2.497e-01 1.493e+00 1.497e+00 1.664e+01
 7.189e-03 1.035e-02 1.081e-02 6.245e-03 2.158e-02 2.619e-03 1.225e+01
 3.519e+01 7.798e+01 4.557e+02 1.499e-01 1.398e-01 1.125e-01 6.136e-02
 3.409e-01 8.147e-02], Class Predicted = 1
 X358 = [1.775e+01 2.803e+01 1.173e+02 9.816e+02 9.997e-02 1.314e-01 1.698e-01
 8.293e-02 1.713e-01 5.916e-02 3.897e-01 1.077e+00 2.873e+00 4.395e+01
 4.714e-03 2.015e-02 3.697e-02 1.110e-02 1.237e-02 2.556e-03 2.153e+01
 3.854e+01 1.454e+02 1.437e+03 1.401e-01 3.762e-01 6.399e-01 1.970e-01
 2.972e-01 9.075e-02], Class Predicted = 0
 X359 = [1.453e+01 1.934e+01 9.425e+01 6.597e+02 8.388e-02 7.800e-02 8.817e-02
 2.925e-02 1.473e-01 5.746e-02 2.535e-01 1.354e+00 1.994e+00 2.304e+01
 4.147e-03 2.048e-02 3.379e-02 8.848e-03 1.394e-02 2.327e-03 1.630e+01
 2.839e+01 1.081e+02 8.305e+02 1.089e-01 2.649e-01 3.779e-01 9.594e-02
 2.471e-01 7.463e-02], Class Predicted = 1
 X360 = [1.219e+01 1.329e+01 7.908e+01 4.558e+02 1.066e-01 9.509e-02 2.855e-02
 2.882e-02 1.880e-01 6.471e-02 2.005e-01 8.163e-01 1.973e+00 1.524e+01
 6.773e-03 2.456e-02 1.018e-02 8.094e-03 2.662e-02 4.143e-03 1.334e+01
 1.781e+01 9.138e+01 5.452e+02 1.427e-01 2.585e-01 9.915e-02 8.187e-02
 3.469e-01 9.241e-02], Class Predicted = 1
 X361 = [2.059e+01 2.124e+01 1.378e+02 1.320e+03 1.085e-01 1.644e-01 2.188e-01
 1.121e-01 1.848e-01 6.222e-02 5.904e-01 1.216e+00 4.206e+00 7.509e+01
 6.666e-03 2.791e-02 4.062e-02 1.479e-02 1.117e-02 3.727e-03 2.386e+01
 3.076e+01 1.632e+02 1.760e+03 1.464e-01 3.597e-01 5.179e-01 2.113e-01
 2.480e-01 8.999e-02], Class Predicted = 0
 X362 = [1.129e+01 1.304e+01 7.223e+01 3.880e+02 9.834e-02 7.608e-02 3.265e-02
 2.755e-02 1.769e-01 6.270e-02 1.904e-01 5.293e-01 1.164e+00 1.317e+01
 6.472e-03 1.122e-02 1.282e-02 8.849e-03 1.692e-02 2.817e-03 1.232e+01
 1.618e+01 7.827e+01 4.575e+02 1.358e-01 1.507e-01 1.275e-01 8.750e-02
 2.733e-01 8.022e-02], Class Predicted = 1
 X363 = [1.291e+01 1.633e+01 8.253e+01 5.164e+02 7.941e-02 5.366e-02 3.873e-02
 2.377e-02 1.829e-01 5.667e-02 1.942e-01 9.086e-01 1.493e+00 1.575e+01
 5.298e-03 1.587e-02 2.321e-02 8.420e-03 1.853e-02 2.152e-03 1.388e+01
 2.200e+01 9.081e+01 6.006e+02 1.097e-01 1.506e-01 1.764e-01 8.235e-02
 3.024e-01 6.949e-02], Class Predicted = 1
 X364 = [1.527e+01 1.291e+01 9.817e+01 7.255e+02 8.182e-02 6.230e-02 5.892e-02
 3.157e-02 1.359e-01 5.526e-02 2.134e-01 3.628e-01 1.525e+00 2.000e+01
 4.291e-03 1.236e-02 1.841e-02 7.373e-03 9.539e-03 1.656e-03 1.738e+01
 1.592e+01 1.137e+02 9.327e+02 1.222e-01 2.186e-01 2.962e-01 1.035e-01
 2.320e-01 7.474e-02], Class Predicted = 1
 X365 = [1.221e+01 1.802e+01 7.831e+01 4.584e+02 9.231e-02 7.175e-02 4.392e-02
 2.027e-02 1.695e-01 5.916e-02 2.527e-01 7.786e-01 1.874e+00 1.857e+01
 5.833e-03 1.388e-02 2.000e-02 7.087e-03 1.938e-02 1.960e-03 1.429e+01
 2.404e+01 9.385e+01 6.246e+02 1.368e-01 2.170e-01 2.413e-01 8.829e-02
 3.218e-01 7.470e-02], Class Predicted = 1
 X366 = [1.337e+01 1.639e+01 8.610e+01 5.535e+02 7.115e-02 7.325e-02 8.092e-02
 2.800e-02 1.422e-01 5.823e-02 1.639e-01 1.140e+00 1.223e+00 1.466e+01
 5.919e-03 3.270e-02 4.957e-02 1.038e-02 1.208e-02 4.076e-03 1.426e+01
 2.275e+01 9.199e+01 6.321e+02 1.025e-01 2.531e-01 3.308e-01 8.978e-02
 2.048e-01 7.628e-02], Class Predicted = 1
 X367 = [1.519e+01 1.321e+01 9.765e+01 7.118e+02 7.963e-02 6.934e-02 3.393e-02
 2.657e-02 1.721e-01 5.544e-02 1.783e-01 4.125e-01 1.338e+00 1.772e+01
 5.012e-03 1.485e-02 1.551e-02 9.155e-03 1.647e-02 1.767e-03 1.620e+01
 1.573e+01 1.045e+02 8.191e+02 1.126e-01 1.737e-01 1.362e-01 8.178e-02
 2.487e-01 6.766e-02], Class Predicted = 1
 X368 = [1.094e+01 1.859e+01 7.039e+01 3.700e+02 1.004e-01 7.460e-02 4.944e-02
 2.932e-02 1.486e-01 6.615e-02 3.796e-01 1.743e+00 3.018e+00 2.578e+01
 9.519e-03 2.134e-02 1.990e-02 1.155e-02 2.079e-02 2.701e-03 1.240e+01
 2.558e+01 8.276e+01 4.724e+02 1.363e-01 1.644e-01 1.412e-01 7.887e-02
 2.251e-01 7.732e-02], Class Predicted = 1
 X369 = [1.300e+01 2.182e+01 8.750e+01 5.198e+02 1.273e-01 1.932e-01 1.859e-01

9.353e-02 2.350e-01 7.389e-02 3.063e-01 1.002e+00 2.406e+00 2.432e+01
 5.731e-03 3.502e-02 3.553e-02 1.226e-02 2.143e-02 3.749e-03 1.549e+01
 3.073e+01 1.062e+02 7.393e+02 1.703e-01 5.401e-01 5.390e-01 2.060e-01
 4.378e-01 1.072e-01], Class Predicted = 1
 X370 = [1.953e+01 1.890e+01 1.295e+02 1.217e+03 1.150e-01 1.642e-01 2.197e-01
 1.062e-01 1.792e-01 6.552e-02 1.111e+00 1.161e+00 7.237e+00 1.330e+02
 6.056e-03 3.203e-02 5.638e-02 1.733e-02 1.884e-02 4.787e-03 2.593e+01
 2.624e+01 1.711e+02 2.053e+03 1.495e-01 4.116e-01 6.121e-01 1.980e-01
 2.968e-01 9.929e-02], Class Predicted = 0
 X371 = [1.464e+01 1.524e+01 9.577e+01 6.519e+02 1.132e-01 1.339e-01 9.966e-02
 7.064e-02 2.116e-01 6.346e-02 5.115e-01 7.372e-01 3.814e+00 4.276e+01
 5.508e-03 4.412e-02 4.436e-02 1.623e-02 2.427e-02 4.841e-03 1.634e+01
 1.824e+01 1.094e+02 8.036e+02 1.277e-01 3.089e-01 2.604e-01 1.397e-01
 3.151e-01 8.473e-02], Class Predicted = 1
 X372 = [9.847e+00 1.568e+01 6.300e+01 2.932e+02 9.492e-02 8.419e-02 2.330e-02
 2.416e-02 1.387e-01 6.891e-02 2.498e-01 1.216e+00 1.976e+00 1.524e+01
 8.732e-03 2.042e-02 1.062e-02 6.801e-03 1.824e-02 3.494e-03 1.124e+01
 2.299e+01 7.432e+01 3.765e+02 1.419e-01 2.243e-01 8.434e-02 6.528e-02
 2.502e-01 9.209e-02], Class Predicted = 1
 X373 = [1.026e+01 1.471e+01 6.620e+01 3.216e+02 9.882e-02 9.159e-02 3.581e-02
 2.037e-02 1.633e-01 7.005e-02 3.380e-01 2.509e+00 2.394e+00 1.933e+01
 1.736e-02 4.671e-02 2.611e-02 1.296e-02 3.675e-02 6.758e-03 1.088e+01
 1.948e+01 7.089e+01 3.571e+02 1.360e-01 1.636e-01 7.162e-02 4.074e-02
 2.434e-01 8.488e-02], Class Predicted = 1
 X374 = [1.236e+01 1.854e+01 7.901e+01 4.667e+02 8.477e-02 6.815e-02 2.643e-02
 1.921e-02 1.602e-01 6.066e-02 1.199e-01 8.944e-01 8.484e-01 9.227e+00
 3.457e-03 1.047e-02 1.167e-02 5.558e-03 1.251e-02 1.356e-03 1.329e+01
 2.749e+01 8.556e+01 5.441e+02 1.184e-01 1.963e-01 1.937e-01 8.442e-02
 2.983e-01 7.185e-02], Class Predicted = 1
 X375 = [1.768e+01 2.074e+01 1.174e+02 9.637e+02 1.115e-01 1.665e-01 1.855e-01
 1.054e-01 1.971e-01 6.166e-02 8.113e-01 1.400e+00 5.540e+00 9.391e+01
 9.037e-03 4.954e-02 5.206e-02 1.841e-02 1.778e-02 4.968e-03 2.047e+01
 2.511e+01 1.329e+02 1.302e+03 1.418e-01 3.498e-01 3.583e-01 1.515e-01
 2.463e-01 7.738e-02], Class Predicted = 0
 X376 = [1.613e+01 2.068e+01 1.081e+02 7.988e+02 1.170e-01 2.022e-01 1.722e-01
 1.028e-01 2.164e-01 7.356e-02 5.692e-01 1.073e+00 3.854e+00 5.418e+01
 7.026e-03 2.501e-02 3.188e-02 1.297e-02 1.689e-02 4.142e-03 2.096e+01
 3.148e+01 1.368e+02 1.315e+03 1.789e-01 4.233e-01 4.784e-01 2.073e-01
 3.706e-01 1.142e-01], Class Predicted = 0
 X377 = [1.719e+01 2.207e+01 1.116e+02 9.283e+02 9.726e-02 8.995e-02 9.061e-02
 6.527e-02 1.867e-01 5.580e-02 4.203e-01 7.383e-01 2.819e+00 4.542e+01
 4.493e-03 1.206e-02 2.048e-02 9.875e-03 1.144e-02 1.575e-03 2.158e+01
 2.933e+01 1.405e+02 1.436e+03 1.558e-01 2.567e-01 3.889e-01 1.984e-01
 3.216e-01 7.570e-02], Class Predicted = 0
 X378 = [1.411e+01 1.288e+01 9.003e+01 6.165e+02 9.309e-02 5.306e-02 1.765e-02
 2.733e-02 1.373e-01 5.700e-02 2.571e-01 1.081e+00 1.558e+00 2.392e+01
 6.692e-03 1.132e-02 5.717e-03 6.627e-03 1.416e-02 2.476e-03 1.553e+01
 1.800e+01 9.840e+01 7.499e+02 1.281e-01 1.109e-01 5.307e-02 5.890e-02
 2.100e-01 7.083e-02], Class Predicted = 1
 X379 = [1.060e+01 1.895e+01 6.928e+01 3.464e+02 9.688e-02 1.147e-01 6.387e-02
 2.642e-02 1.922e-01 6.491e-02 4.505e-01 1.197e+00 3.430e+00 2.710e+01
 7.470e-03 3.581e-02 3.354e-02 1.365e-02 3.504e-02 3.318e-03 1.188e+01
 2.294e+01 7.828e+01 4.248e+02 1.213e-01 2.515e-01 1.916e-01 7.926e-02
 2.940e-01 7.587e-02], Class Predicted = 1
 X380 = [1.747e+01 2.468e+01 1.161e+02 9.846e+02 1.049e-01 1.603e-01 2.159e-01
 1.043e-01 1.538e-01 6.365e-02 1.088e+00 1.410e+00 7.337e+00 1.223e+02
 6.174e-03 3.634e-02 4.644e-02 1.569e-02 1.145e-02 5.120e-03 2.314e+01
 3.233e+01 1.553e+02 1.660e+03 1.376e-01 3.830e-01 4.890e-01 1.721e-01
 2.160e-01 9.300e-02], Class Predicted = 0
 X381 = [1.200e+01 2.823e+01 7.677e+01 4.425e+02 8.437e-02 6.450e-02 4.055e-02
 1.945e-02 1.615e-01 6.104e-02 1.912e-01 1.705e+00 1.516e+00 1.386e+01
 7.334e-03 2.589e-02 2.941e-02 9.166e-03 1.745e-02 4.302e-03 1.309e+01
 3.788e+01 8.507e+01 5.237e+02 1.208e-01 1.856e-01 1.811e-01 7.116e-02
 2.447e-01 8.194e-02], Class Predicted = 1
 X382 = [1.167e+01 2.002e+01 7.521e+01 4.162e+02 1.016e-01 9.453e-02 4.200e-02
 2.157e-02 1.859e-01 6.461e-02 2.067e-01 8.745e-01 1.393e+00 1.534e+01
 5.251e-03 1.727e-02 1.840e-02 5.298e-03 1.449e-02 2.671e-03 1.335e+01
 2.881e+01 8.700e+01 5.506e+02 1.550e-01 2.964e-01 2.758e-01 8.120e-02
 3.206e-01 8.950e-02], Class Predicted = 1

X383 = [1.272e+01 1.378e+01 8.178e+01 4.921e+02 9.667e-02 8.393e-02 1.288e-02
 1.924e-02 1.638e-01 6.100e-02 1.807e-01 6.931e-01 1.340e+00 1.338e+01
 6.064e-03 1.180e-02 6.564e-03 7.978e-03 1.374e-02 1.392e-03 1.350e+01
 1.748e+01 8.854e+01 5.537e+02 1.298e-01 1.472e-01 5.233e-02 6.343e-02
 2.369e-01 6.922e-02], Class Predicted = 1
 X384 = [1.277e+01 2.247e+01 8.172e+01 5.063e+02 9.055e-02 5.761e-02 4.711e-02
 2.704e-02 1.585e-01 6.065e-02 2.367e-01 1.380e+00 1.457e+00 1.987e+01
 7.499e-03 1.202e-02 2.332e-02 8.920e-03 1.647e-02 2.629e-03 1.449e+01
 3.337e+01 9.204e+01 6.536e+02 1.419e-01 1.523e-01 2.177e-01 9.331e-02
 2.829e-01 8.067e-02], Class Predicted = 1
 X385 = [1.127e+01 1.296e+01 7.316e+01 3.863e+02 1.237e-01 1.111e-01 7.900e-02
 5.550e-02 2.018e-01 6.914e-02 2.562e-01 9.858e-01 1.809e+00 1.604e+01
 6.635e-03 1.777e-02 2.101e-02 1.164e-02 2.108e-02 3.721e-03 1.284e+01
 2.053e+01 8.493e+01 4.761e+02 1.610e-01 2.429e-01 2.247e-01 1.318e-01
 3.343e-01 9.215e-02], Class Predicted = 1
 X386 = [1.320e+01 1.743e+01 8.413e+01 5.416e+02 7.215e-02 4.524e-02 4.336e-02
 1.105e-02 1.487e-01 5.635e-02 1.630e-01 1.601e+00 8.730e-01 1.356e+01
 6.261e-03 1.569e-02 3.079e-02 5.383e-03 1.962e-02 2.250e-03 1.394e+01
 2.782e+01 8.828e+01 6.020e+02 1.101e-01 1.508e-01 2.298e-01 4.970e-02
 2.767e-01 7.198e-02], Class Predicted = 1
 X387 = [9.876e+00 1.940e+01 6.395e+01 2.983e+02 1.005e-01 9.697e-02 6.154e-02
 3.029e-02 1.945e-01 6.322e-02 1.803e-01 1.222e+00 1.528e+00 1.177e+01
 9.058e-03 2.196e-02 3.029e-02 1.112e-02 1.609e-02 3.570e-03 1.076e+01
 2.683e+01 7.222e+01 3.612e+02 1.559e-01 2.302e-01 2.644e-01 9.749e-02
 2.622e-01 8.490e-02], Class Predicted = 1
 X388 = [1.546e+01 1.189e+01 1.025e+02 7.369e+02 1.257e-01 1.555e-01 2.032e-01
 1.097e-01 1.966e-01 7.069e-02 4.209e-01 6.583e-01 2.805e+00 4.464e+01
 5.393e-03 2.321e-02 4.303e-02 1.320e-02 1.792e-02 4.168e-03 1.879e+01
 1.704e+01 1.250e+02 1.102e+03 1.531e-01 3.583e-01 5.830e-01 1.827e-01
 3.216e-01 1.010e-01], Class Predicted = 1
 X389 = [2.321e+01 2.697e+01 1.535e+02 1.670e+03 9.509e-02 1.682e-01 1.950e-01
 1.237e-01 1.909e-01 6.309e-02 1.058e+00 9.635e-01 7.247e+00 1.558e+02
 6.428e-03 2.863e-02 4.497e-02 1.716e-02 1.590e-02 3.053e-03 3.101e+01
 3.451e+01 2.060e+02 2.944e+03 1.481e-01 4.126e-01 5.820e-01 2.593e-01
 3.103e-01 8.677e-02], Class Predicted = 0
 X390 = [1.305e+01 1.859e+01 8.509e+01 5.120e+02 1.082e-01 1.304e-01 9.603e-02
 5.603e-02 2.035e-01 6.501e-02 3.106e-01 1.510e+00 2.590e+00 2.157e+01
 7.807e-03 3.932e-02 5.112e-02 1.876e-02 2.860e-02 5.715e-03 1.419e+01
 2.485e+01 9.422e+01 5.912e+02 1.343e-01 2.658e-01 2.573e-01 1.258e-01
 3.113e-01 8.317e-02], Class Predicted = 1
 X391 = [1.528e+01 2.241e+01 9.892e+01 7.106e+02 9.057e-02 1.052e-01 5.375e-02
 3.263e-02 1.727e-01 6.317e-02 2.054e-01 4.956e-01 1.344e+00 1.953e+01
 3.290e-03 1.395e-02 1.774e-02 6.009e-03 1.172e-02 2.575e-03 1.780e+01
 2.803e+01 1.138e+02 9.731e+02 1.301e-01 3.299e-01 3.630e-01 1.226e-01
 3.175e-01 9.772e-02], Class Predicted = 1
 X392 = [1.150e+01 1.845e+01 7.328e+01 4.074e+02 9.345e-02 5.991e-02 2.638e-02
 2.069e-02 1.834e-01 5.934e-02 3.927e-01 8.429e-01 2.684e+00 2.699e+01
 6.380e-03 1.065e-02 1.245e-02 9.175e-03 2.292e-02 1.461e-03 1.297e+01
 2.246e+01 8.312e+01 5.089e+02 1.183e-01 1.049e-01 8.105e-02 6.544e-02
 2.740e-01 6.487e-02], Class Predicted = 1
 X393 = [1.660e+01 2.808e+01 1.083e+02 8.581e+02 8.455e-02 1.023e-01 9.251e-02
 5.302e-02 1.590e-01 5.648e-02 4.564e-01 1.075e+00 3.425e+00 4.855e+01
 5.903e-03 3.731e-02 4.730e-02 1.557e-02 1.318e-02 3.892e-03 1.898e+01
 3.412e+01 1.267e+02 1.124e+03 1.139e-01 3.094e-01 3.403e-01 1.418e-01
 2.218e-01 7.820e-02], Class Predicted = 0
 X394 = [1.346e+01 1.875e+01 8.744e+01 5.511e+02 1.075e-01 1.138e-01 4.201e-02
 3.152e-02 1.723e-01 6.317e-02 1.998e-01 6.068e-01 1.443e+00 1.607e+01
 4.413e-03 1.443e-02 1.509e-02 7.369e-03 1.354e-02 1.787e-03 1.535e+01
 2.516e+01 1.019e+02 7.198e+02 1.624e-01 3.124e-01 2.654e-01 1.427e-01
 3.518e-01 8.665e-02], Class Predicted = 1
 X395 = [1.979e+01 2.512e+01 1.304e+02 1.192e+03 1.015e-01 1.589e-01 2.545e-01
 1.149e-01 2.202e-01 6.113e-02 4.953e-01 1.199e+00 2.765e+00 6.333e+01
 5.033e-03 3.179e-02 4.755e-02 1.043e-02 1.578e-02 3.224e-03 2.263e+01
 3.358e+01 1.487e+02 1.589e+03 1.275e-01 3.861e-01 5.673e-01 1.732e-01
 3.305e-01 8.465e-02], Class Predicted = 0
 X396 = [1.104e+01 1.493e+01 7.067e+01 3.727e+02 7.987e-02 7.079e-02 3.546e-02
 2.074e-02 2.003e-01 6.246e-02 1.642e-01 1.031e+00 1.281e+00 1.168e+01
 5.296e-03 1.903e-02 1.723e-02 6.960e-03 1.880e-02 1.941e-03 1.209e+01
 2.083e+01 7.973e+01 4.471e+02 1.095e-01 1.982e-01 1.553e-01 6.754e-02

3.202e-01 7.287e-02], Class Predicted = 1
 X397 = [1.825e+01 1.998e+01 1.196e+02 1.040e+03 9.463e-02 1.090e-01 1.127e-01
 7.400e-02 1.794e-01 5.742e-02 4.467e-01 7.732e-01 3.180e+00 5.391e+01
 4.314e-03 1.382e-02 2.254e-02 1.039e-02 1.369e-02 2.179e-03 2.288e+01
 2.766e+01 1.532e+02 1.606e+03 1.442e-01 2.576e-01 3.784e-01 1.932e-01
 3.063e-01 8.368e-02], Class Predicted = 0
 X398 = [2.522e+01 2.491e+01 1.715e+02 1.878e+03 1.063e-01 2.665e-01 3.339e-01
 1.845e-01 1.829e-01 6.782e-02 8.973e-01 1.474e+00 7.382e+00 1.200e+02
 8.166e-03 5.693e-02 5.730e-02 2.030e-02 1.065e-02 5.893e-03 3.000e+01
 3.362e+01 2.117e+02 2.562e+03 1.573e-01 6.076e-01 6.476e-01 2.867e-01
 2.355e-01 1.051e-01], Class Predicted = 0
 X399 = [1.151e+01 2.393e+01 7.452e+01 4.035e+02 9.261e-02 1.021e-01 1.112e-01
 4.105e-02 1.388e-01 6.570e-02 2.388e-01 2.904e+00 1.936e+00 1.697e+01
 8.200e-03 2.982e-02 5.738e-02 1.267e-02 1.488e-02 4.738e-03 1.248e+01
 3.716e+01 8.228e+01 4.742e+02 1.298e-01 2.517e-01 3.630e-01 9.653e-02
 2.112e-01 8.732e-02], Class Predicted = 1
 X400 = [8.597e+00 1.860e+01 5.409e+01 2.212e+02 1.074e-01 5.847e-02 0.000e+00
 0.000e+00 2.163e-01 7.359e-02 3.368e-01 2.777e+00 2.222e+00 1.781e+01
 2.075e-02 1.403e-02 0.000e+00 0.000e+00 6.146e-02 6.820e-03 8.952e+00
 2.244e+01 5.665e+01 2.401e+02 1.347e-01 7.767e-02 0.000e+00 0.000e+00
 3.142e-01 8.116e-02], Class Predicted = 1
 X401 = [6.981e+00 1.343e+01 4.379e+01 1.435e+02 1.170e-01 7.568e-02 0.000e+00
 0.000e+00 1.930e-01 7.818e-02 2.241e-01 1.508e+00 1.553e+00 9.833e+00
 1.019e-02 1.084e-02 0.000e+00 0.000e+00 2.659e-02 4.100e-03 7.930e+00
 1.954e+01 5.041e+01 1.852e+02 1.584e-01 1.202e-01 0.000e+00 0.000e+00
 2.932e-01 9.382e-02], Class Predicted = 1
 X402 = [1.474e+01 2.542e+01 9.470e+01 6.686e+02 8.275e-02 7.214e-02 4.105e-02
 3.027e-02 1.840e-01 5.680e-02 3.031e-01 1.385e+00 2.177e+00 2.741e+01
 4.775e-03 1.172e-02 1.947e-02 1.269e-02 1.870e-02 2.626e-03 1.651e+01
 3.229e+01 1.074e+02 8.264e+02 1.060e-01 1.376e-01 1.611e-01 1.095e-01
 2.722e-01 6.956e-02], Class Predicted = 0
 X403 = [1.566e+01 2.320e+01 1.102e+02 7.735e+02 1.109e-01 3.114e-01 3.176e-01
 1.377e-01 2.495e-01 8.104e-02 1.292e+00 2.454e+00 1.012e+01 1.385e+02
 1.236e-02 5.995e-02 8.232e-02 3.024e-02 2.337e-02 6.042e-03 1.985e+01
 3.164e+01 1.437e+02 1.226e+03 1.504e-01 5.172e-01 6.181e-01 2.462e-01
 3.277e-01 1.019e-01], Class Predicted = 0
 X404 = [2.329e+01 2.667e+01 1.589e+02 1.685e+03 1.141e-01 2.084e-01 3.523e-01
 1.620e-01 2.200e-01 6.229e-02 5.539e-01 1.560e+00 4.667e+00 8.316e+01
 9.327e-03 5.121e-02 8.958e-02 2.465e-02 2.175e-02 5.195e-03 2.512e+01
 3.268e+01 1.770e+02 1.986e+03 1.536e-01 4.167e-01 7.892e-01 2.733e-01
 3.198e-01 8.762e-02], Class Predicted = 0
 X405 = [1.320e+01 1.582e+01 8.407e+01 5.373e+02 8.511e-02 5.251e-02 1.461e-03
 3.261e-03 1.632e-01 5.894e-02 1.903e-01 5.735e-01 1.204e+00 1.550e+01
 3.632e-03 7.861e-03 1.128e-03 2.386e-03 1.344e-02 2.585e-03 1.441e+01
 2.045e+01 9.200e+01 6.369e+02 1.128e-01 1.346e-01 1.120e-02 2.500e-02
 2.651e-01 8.385e-02], Class Predicted = 1
 X406 = [1.057e+01 1.832e+01 6.682e+01 3.409e+02 8.142e-02 4.462e-02 1.993e-02
 1.111e-02 2.372e-01 5.768e-02 1.818e-01 2.542e+00 1.277e+00 1.312e+01
 1.072e-02 1.331e-02 1.993e-02 1.111e-02 1.717e-02 4.492e-03 1.094e+01
 2.331e+01 6.935e+01 3.663e+02 9.794e-02 6.542e-02 3.986e-02 2.222e-02
 2.699e-01 6.736e-02], Class Predicted = 1
 X407 = [9.268e+00 1.287e+01 6.149e+01 2.487e+02 1.634e-01 2.239e-01 9.730e-02
 5.252e-02 2.378e-01 9.502e-02 4.076e-01 1.093e+00 3.014e+00 2.004e+01
 9.783e-03 4.542e-02 3.483e-02 2.188e-02 2.542e-02 1.045e-02 1.028e+01
 1.638e+01 6.905e+01 3.002e+02 1.902e-01 3.441e-01 2.099e-01 1.025e-01
 3.038e-01 1.252e-01], Class Predicted = 1
 X408 = [1.973e+01 1.982e+01 1.307e+02 1.206e+03 1.062e-01 1.849e-01 2.417e-01
 9.740e-02 1.733e-01 6.697e-02 7.661e-01 7.800e-01 4.115e+00 9.281e+01
 8.482e-03 5.057e-02 6.800e-02 1.971e-02 1.467e-02 7.259e-03 2.528e+01
 2.559e+01 1.598e+02 1.933e+03 1.710e-01 5.955e-01 8.489e-01 2.507e-01
 2.749e-01 1.297e-01], Class Predicted = 0
 X409 = [1.434e+01 1.347e+01 9.251e+01 6.412e+02 9.906e-02 7.624e-02 5.724e-02
 4.603e-02 2.075e-01 5.448e-02 5.220e-01 8.121e-01 3.763e+00 4.829e+01
 7.089e-03 1.428e-02 2.360e-02 1.286e-02 2.266e-02 1.463e-03 1.677e+01
 1.690e+01 1.104e+02 8.732e+02 1.297e-01 1.525e-01 1.632e-01 1.087e-01
 3.062e-01 6.072e-02], Class Predicted = 1
 X410 = [1.742e+01 2.556e+01 1.145e+02 9.480e+02 1.006e-01 1.146e-01 1.682e-01
 6.597e-02 1.308e-01 5.866e-02 5.296e-01 1.667e+00 3.767e+00 5.853e+01
 3.113e-02 8.555e-02 1.438e-01 3.927e-02 2.175e-02 1.256e-02 1.807e+01

2.807e+01 1.204e+02 1.021e+03 1.243e-01 1.793e-01 2.803e-01 1.099e-01
 1.603e-01 6.818e-02], Class Predicted = 0
 X411 = [1.386e+01 1.693e+01 9.096e+01 5.789e+02 1.026e-01 1.517e-01 9.901e-02
 5.602e-02 2.106e-01 6.916e-02 2.563e-01 1.194e+00 1.933e+00 2.269e+01
 5.960e-03 3.438e-02 3.909e-02 1.435e-02 1.939e-02 4.560e-03 1.575e+01
 2.693e+01 1.044e+02 7.501e+02 1.460e-01 4.370e-01 4.636e-01 1.654e-01
 3.630e-01 1.059e-01], Class Predicted = 1
 X412 = [1.104e+01 1.683e+01 7.092e+01 3.732e+02 1.077e-01 7.804e-02 3.046e-02
 2.480e-02 1.714e-01 6.340e-02 1.967e-01 1.387e+00 1.342e+00 1.354e+01
 5.158e-03 9.355e-03 1.056e-02 7.483e-03 1.718e-02 2.198e-03 1.241e+01
 2.644e+01 7.993e+01 4.714e+02 1.369e-01 1.482e-01 1.067e-01 7.431e-02
 2.998e-01 7.881e-02], Class Predicted = 1
 X413 = [1.328e+01 2.028e+01 8.732e+01 5.452e+02 1.041e-01 1.436e-01 9.847e-02
 6.158e-02 1.974e-01 6.782e-02 3.704e-01 8.249e-01 2.427e+00 3.133e+01
 5.072e-03 2.147e-02 2.185e-02 9.560e-03 1.719e-02 3.317e-03 1.738e+01
 2.800e+01 1.131e+02 9.072e+02 1.530e-01 3.724e-01 3.664e-01 1.492e-01
 3.739e-01 1.027e-01], Class Predicted = 1
 X414 = [1.206e+01 1.274e+01 7.684e+01 4.486e+02 9.311e-02 5.241e-02 1.972e-02
 1.963e-02 1.590e-01 5.907e-02 1.822e-01 7.285e-01 1.171e+00 1.325e+01
 5.528e-03 9.789e-03 8.342e-03 6.273e-03 1.465e-02 2.530e-03 1.314e+01
 1.841e+01 8.408e+01 5.328e+02 1.275e-01 1.232e-01 8.636e-02 7.025e-02
 2.514e-01 7.898e-02], Class Predicted = 1
 X415 = [1.005e+01 1.753e+01 6.441e+01 3.108e+02 1.007e-01 7.326e-02 2.511e-02
 1.775e-02 1.890e-01 6.331e-02 2.619e-01 2.015e+00 1.778e+00 1.685e+01
 7.803e-03 1.449e-02 1.690e-02 8.043e-03 2.100e-02 2.778e-03 1.116e+01
 2.684e+01 7.198e+01 3.840e+02 1.402e-01 1.402e-01 1.055e-01 6.499e-02
 2.894e-01 7.664e-02], Class Predicted = 1
 X416 = [9.667e+00 1.849e+01 6.149e+01 2.891e+02 8.946e-02 6.258e-02 2.948e-02
 1.514e-02 2.238e-01 6.413e-02 3.776e-01 1.350e+00 2.569e+00 2.273e+01
 7.501e-03 1.989e-02 2.714e-02 9.883e-03 1.960e-02 3.913e-03 1.114e+01
 2.562e+01 7.088e+01 3.852e+02 1.234e-01 1.542e-01 1.277e-01 6.560e-02
 3.174e-01 8.524e-02], Class Predicted = 1
 X417 = [9.742e+00 1.567e+01 6.150e+01 2.899e+02 9.037e-02 4.689e-02 1.103e-02
 1.407e-02 2.081e-01 6.312e-02 2.684e-01 1.409e+00 1.750e+00 1.639e+01
 1.380e-02 1.067e-02 8.347e-03 9.472e-03 1.798e-02 4.261e-03 1.075e+01
 2.088e+01 6.809e+01 3.552e+02 1.467e-01 9.370e-02 4.043e-02 5.159e-02
 2.841e-01 8.175e-02], Class Predicted = 1
 X418 = [1.008e+01 1.511e+01 6.376e+01 3.175e+02 9.267e-02 4.695e-02 1.597e-03
 2.404e-03 1.703e-01 6.048e-02 4.245e-01 1.268e+00 2.680e+00 2.643e+01
 1.439e-02 1.200e-02 1.597e-03 2.404e-03 2.538e-02 3.470e-03 1.187e+01
 2.118e+01 7.539e+01 4.370e+02 1.521e-01 1.019e-01 6.920e-03 1.042e-02
 2.933e-01 7.697e-02], Class Predicted = 1
 X419 = [2.031e+01 2.706e+01 1.329e+02 1.288e+03 1.000e-01 1.088e-01 1.519e-01
 9.333e-02 1.814e-01 5.572e-02 3.977e-01 1.033e+00 2.587e+00 5.234e+01
 5.043e-03 1.578e-02 2.117e-02 8.185e-03 1.282e-02 1.892e-03 2.433e+01
 3.916e+01 1.623e+02 1.844e+03 1.522e-01 2.945e-01 3.788e-01 1.697e-01
 3.151e-01 7.999e-02], Class Predicted = 0
 X420 = [1.242e+01 1.504e+01 7.861e+01 4.765e+02 7.926e-02 3.393e-02 1.053e-02
 1.108e-02 1.546e-01 5.754e-02 1.153e-01 6.745e-01 7.570e-01 9.006e+00
 3.265e-03 4.930e-03 6.493e-03 3.762e-03 1.720e-02 1.360e-03 1.320e+01
 2.037e+01 8.385e+01 5.434e+02 1.037e-01 7.776e-02 6.243e-02 4.052e-02
 2.901e-01 6.783e-02], Class Predicted = 1
 X421 = [1.327e+01 1.476e+01 8.474e+01 5.517e+02 7.355e-02 5.055e-02 3.261e-02
 2.648e-02 1.386e-01 5.318e-02 4.057e-01 1.153e+00 2.701e+00 3.635e+01
 4.481e-03 1.038e-02 1.358e-02 1.082e-02 1.069e-02 1.435e-03 1.636e+01
 2.235e+01 1.045e+02 8.306e+02 1.006e-01 1.238e-01 1.350e-01 1.001e-01
 2.027e-01 6.206e-02], Class Predicted = 1
 X422 = [1.254e+01 1.807e+01 7.942e+01 4.919e+02 7.436e-02 2.650e-02 1.194e-03
 5.449e-03 1.528e-01 5.185e-02 3.511e-01 9.527e-01 2.329e+00 2.830e+01
 5.783e-03 4.693e-03 7.929e-04 3.617e-03 2.043e-02 1.058e-03 1.372e+01
 2.098e+01 8.682e+01 5.857e+02 9.293e-02 4.327e-02 3.581e-03 1.635e-02
 2.233e-01 5.521e-02], Class Predicted = 1
 X423 = [1.549e+01 1.997e+01 1.024e+02 7.447e+02 1.160e-01 1.562e-01 1.891e-01
 9.113e-02 1.929e-01 6.744e-02 6.470e-01 1.331e+00 4.675e+00 6.691e+01
 7.269e-03 2.928e-02 4.972e-02 1.639e-02 1.852e-02 4.232e-03 2.120e+01
 2.941e+01 1.421e+02 1.359e+03 1.681e-01 3.913e-01 5.553e-01 2.121e-01
 3.187e-01 1.019e-01], Class Predicted = 0
 X424 = [1.665e+01 2.138e+01 1.100e+02 9.046e+02 1.121e-01 1.457e-01 1.525e-01
 9.170e-02 1.995e-01 6.330e-02 8.068e-01 9.017e-01 5.455e+00 1.026e+02

6.048e-03 1.882e-02 2.741e-02 1.130e-02 1.468e-02 2.801e-03 2.646e+01
 3.156e+01 1.770e+02 2.215e+03 1.805e-01 3.578e-01 4.695e-01 2.095e-01
 3.613e-01 9.564e-02], Class Predicted = 0
 X425 = [1.170e+01 1.911e+01 7.433e+01 4.187e+02 8.814e-02 5.253e-02 1.583e-02
 1.148e-02 1.936e-01 6.128e-02 1.601e-01 1.430e+00 1.109e+00 1.128e+01
 6.064e-03 9.110e-03 1.042e-02 7.638e-03 2.349e-02 1.661e-03 1.261e+01
 2.655e+01 8.092e+01 4.831e+02 1.223e-01 1.087e-01 7.915e-02 5.741e-02
 3.487e-01 6.958e-02], Class Predicted = 1
 X426 = [1.805e+01 1.615e+01 1.202e+02 1.006e+03 1.065e-01 2.146e-01 1.684e-01
 1.080e-01 2.152e-01 6.673e-02 9.806e-01 5.505e-01 6.311e+00 1.348e+02
 7.940e-03 5.839e-02 4.658e-02 2.070e-02 2.591e-02 7.054e-03 2.239e+01
 1.891e+01 1.501e+02 1.610e+03 1.478e-01 5.634e-01 3.786e-01 2.102e-01
 3.751e-01 1.108e-01], Class Predicted = 0
 X427 = [1.193e+01 1.091e+01 7.614e+01 4.427e+02 8.872e-02 5.242e-02 2.606e-02
 1.796e-02 1.601e-01 5.541e-02 2.522e-01 1.045e+00 1.649e+00 1.895e+01
 6.175e-03 1.204e-02 1.376e-02 5.832e-03 1.096e-02 1.857e-03 1.380e+01
 2.014e+01 8.764e+01 5.895e+02 1.374e-01 1.575e-01 1.514e-01 6.876e-02
 2.460e-01 7.262e-02], Class Predicted = 1
 X428 = [1.206e+01 1.890e+01 7.666e+01 4.453e+02 8.386e-02 5.794e-02 7.510e-03
 8.488e-03 1.555e-01 6.048e-02 2.430e-01 1.152e+00 1.559e+00 1.802e+01
 7.180e-03 1.096e-02 5.832e-03 5.495e-03 1.982e-02 2.754e-03 1.364e+01
 2.706e+01 8.654e+01 5.626e+02 1.289e-01 1.352e-01 4.506e-02 5.093e-02
 2.880e-01 8.083e-02], Class Predicted = 1
 X429 = [8.219e+00 2.070e+01 5.327e+01 2.039e+02 9.405e-02 1.305e-01 1.321e-01
 2.168e-02 2.222e-01 8.261e-02 1.935e-01 1.962e+00 1.243e+00 1.021e+01
 1.243e-02 5.416e-02 7.753e-02 1.022e-02 2.309e-02 1.178e-02 9.092e+00
 2.972e+01 5.808e+01 2.498e+02 1.630e-01 4.310e-01 5.381e-01 7.879e-02
 3.322e-01 1.486e-01], Class Predicted = 1
 X430 = [1.822e+01 1.870e+01 1.203e+02 1.033e+03 1.148e-01 1.485e-01 1.772e-01
 1.060e-01 2.092e-01 6.310e-02 8.337e-01 1.593e+00 4.877e+00 9.881e+01
 3.899e-03 2.961e-02 2.817e-02 9.222e-03 2.674e-02 5.126e-03 2.060e+01
 2.413e+01 1.351e+02 1.321e+03 1.280e-01 2.297e-01 2.623e-01 1.325e-01
 3.021e-01 7.987e-02], Class Predicted = 0
 X431 = [1.258e+01 1.840e+01 7.983e+01 4.890e+02 8.393e-02 4.216e-02 1.860e-03
 2.924e-03 1.697e-01 5.855e-02 2.719e-01 1.350e+00 1.721e+00 2.245e+01
 6.383e-03 8.008e-03 1.860e-03 2.924e-03 2.571e-02 2.015e-03 1.350e+01
 2.308e+01 8.556e+01 5.641e+02 1.038e-01 6.624e-02 5.579e-03 8.772e-03
 2.505e-01 6.431e-02], Class Predicted = 1
 X432 = [1.108e+01 1.471e+01 7.021e+01 3.727e+02 1.006e-01 5.743e-02 2.363e-02
 2.583e-02 1.566e-01 6.669e-02 2.073e-01 1.805e+00 1.377e+00 1.908e+01
 1.496e-02 2.121e-02 1.453e-02 1.583e-02 3.082e-02 4.785e-03 1.135e+01
 1.682e+01 7.201e+01 3.965e+02 1.216e-01 8.240e-02 3.938e-02 4.306e-02
 1.902e-01 7.313e-02], Class Predicted = 1
 X433 = [1.246e+01 2.404e+01 8.397e+01 4.759e+02 1.186e-01 2.396e-01 2.273e-01
 8.543e-02 2.030e-01 8.243e-02 2.976e-01 1.599e+00 2.039e+00 2.394e+01
 7.149e-03 7.217e-02 7.743e-02 1.432e-02 1.789e-02 1.008e-02 1.509e+01
 4.068e+01 9.765e+01 7.114e+02 1.853e-01 1.058e+00 1.105e+00 2.210e-01
 4.366e-01 2.075e-01], Class Predicted = 1
 X434 = [1.757e+01 1.505e+01 1.150e+02 9.551e+02 9.847e-02 1.157e-01 9.875e-02
 7.953e-02 1.739e-01 6.149e-02 6.003e-01 8.225e-01 4.655e+00 6.110e+01
 5.627e-03 3.033e-02 3.407e-02 1.354e-02 1.925e-02 3.742e-03 2.001e+01
 1.952e+01 1.349e+02 1.227e+03 1.255e-01 2.812e-01 2.489e-01 1.456e-01
 2.756e-01 7.919e-02], Class Predicted = 0
 X435 = [1.300e+01 2.078e+01 8.351e+01 5.194e+02 1.135e-01 7.589e-02 3.136e-02
 2.645e-02 2.540e-01 6.087e-02 4.202e-01 1.322e+00 2.873e+00 3.478e+01
 7.017e-03 1.142e-02 1.949e-02 1.153e-02 2.951e-02 1.533e-03 1.416e+01
 2.411e+01 9.082e+01 6.167e+02 1.297e-01 1.105e-01 8.112e-02 6.296e-02
 3.196e-01 6.435e-02], Class Predicted = 1
 X436 = [1.141e+01 1.492e+01 7.353e+01 4.020e+02 9.059e-02 8.155e-02 6.181e-02
 2.361e-02 1.167e-01 6.217e-02 3.344e-01 1.108e+00 1.902e+00 2.277e+01
 7.356e-03 3.728e-02 5.915e-02 1.712e-02 2.165e-02 4.784e-03 1.237e+01
 1.770e+01 7.912e+01 4.672e+02 1.121e-01 1.610e-01 1.648e-01 6.296e-02
 1.811e-01 7.427e-02], Class Predicted = 1
 X437 = [1.234e+01 1.227e+01 7.894e+01 4.685e+02 9.003e-02 6.307e-02 2.958e-02
 2.647e-02 1.689e-01 5.808e-02 1.166e-01 4.957e-01 7.714e-01 8.955e+00
 3.681e-03 9.169e-03 8.732e-03 5.740e-03 1.129e-02 1.366e-03 1.361e+01
 1.927e+01 8.722e+01 5.649e+02 1.292e-01 2.074e-01 1.791e-01 1.070e-01
 3.110e-01 7.592e-02], Class Predicted = 1
 X438 = [1.359e+01 1.784e+01 8.624e+01 5.723e+02 7.948e-02 4.052e-02 1.997e-02

1.238e-02 1.573e-01 5.520e-02 2.580e-01 1.166e+00 1.683e+00 2.222e+01
 3.741e-03 5.274e-03 1.065e-02 5.044e-03 1.344e-02 1.126e-03 1.550e+01
 2.610e+01 9.891e+01 7.391e+02 1.050e-01 7.622e-02 1.060e-01 5.185e-02
 2.335e-01 6.263e-02], Class Predicted = 1
 X439 = [1.086e+01 2.148e+01 6.851e+01 3.605e+02 7.431e-02 4.227e-02 0.000e+00
 0.000e+00 1.661e-01 5.948e-02 3.163e-01 1.304e+00 2.115e+00 2.067e+01
 9.579e-03 1.104e-02 0.000e+00 0.000e+00 3.004e-02 2.228e-03 1.166e+01
 2.477e+01 7.408e+01 4.123e+02 1.001e-01 7.348e-02 0.000e+00 0.000e+00
 2.458e-01 6.592e-02], Class Predicted = 1
 X440 = [1.442e+01 1.977e+01 9.448e+01 6.425e+02 9.752e-02 1.141e-01 9.388e-02
 5.839e-02 1.879e-01 6.390e-02 2.895e-01 1.851e+00 2.376e+00 2.685e+01
 8.005e-03 2.895e-02 3.321e-02 1.424e-02 1.462e-02 4.452e-03 1.633e+01
 3.086e+01 1.095e+02 8.264e+02 1.431e-01 3.026e-01 3.194e-01 1.565e-01
 2.718e-01 9.353e-02], Class Predicted = 1
 X441 = [1.578e+01 2.291e+01 1.057e+02 7.826e+02 1.155e-01 1.752e-01 2.133e-01
 9.479e-02 2.096e-01 7.331e-02 5.520e-01 1.072e+00 3.598e+00 5.863e+01
 8.699e-03 3.976e-02 5.950e-02 1.390e-02 1.495e-02 5.984e-03 2.019e+01
 3.050e+01 1.303e+02 1.272e+03 1.855e-01 4.925e-01 7.356e-01 2.034e-01
 3.274e-01 1.252e-01], Class Predicted = 0
 X442 = [1.127e+01 1.550e+01 7.338e+01 3.920e+02 8.365e-02 1.114e-01 1.007e-01
 2.757e-02 1.810e-01 7.252e-02 3.305e-01 1.067e+00 2.569e+00 2.297e+01
 1.038e-02 6.669e-02 9.472e-02 2.047e-02 1.219e-02 1.233e-02 1.204e+01
 1.893e+01 7.973e+01 4.500e+02 1.102e-01 2.809e-01 3.021e-01 8.272e-02
 2.157e-01 1.043e-01], Class Predicted = 1
 X443 = [1.321e+01 2.806e+01 8.488e+01 5.384e+02 8.671e-02 6.877e-02 2.987e-02
 3.275e-02 1.628e-01 5.781e-02 2.351e-01 1.597e+00 1.539e+00 1.785e+01
 4.973e-03 1.372e-02 1.498e-02 9.117e-03 1.724e-02 1.343e-03 1.437e+01
 3.717e+01 9.248e+01 6.296e+02 1.072e-01 1.381e-01 1.062e-01 7.958e-02
 2.473e-01 6.443e-02], Class Predicted = 1
 X444 = [1.510e+01 1.639e+01 9.958e+01 6.745e+02 1.150e-01 1.807e-01 1.138e-01
 8.534e-02 2.001e-01 6.467e-02 4.309e-01 1.068e+00 2.796e+00 3.984e+01
 9.006e-03 4.185e-02 3.204e-02 2.258e-02 2.353e-02 4.984e-03 1.611e+01
 1.833e+01 1.059e+02 7.626e+02 1.386e-01 2.883e-01 1.960e-01 1.423e-01
 2.590e-01 7.779e-02], Class Predicted = 1
 X445 = [1.268e+01 2.384e+01 8.269e+01 4.990e+02 1.122e-01 1.262e-01 1.128e-01
 6.873e-02 1.905e-01 6.590e-02 4.255e-01 1.178e+00 2.927e+00 3.646e+01
 7.781e-03 2.648e-02 2.973e-02 1.290e-02 1.635e-02 3.601e-03 1.709e+01
 3.347e+01 1.118e+02 8.883e+02 1.851e-01 4.061e-01 4.024e-01 1.716e-01
 3.383e-01 1.031e-01], Class Predicted = 0
 X446 = [9.606e+00 1.684e+01 6.164e+01 2.805e+02 8.481e-02 9.228e-02 8.422e-02
 2.292e-02 2.036e-01 7.125e-02 1.844e-01 9.429e-01 1.429e+00 1.207e+01
 5.954e-03 3.471e-02 5.028e-02 8.510e-03 1.750e-02 4.031e-03 1.075e+01
 2.307e+01 7.125e+01 3.536e+02 1.233e-01 3.416e-01 4.341e-01 8.120e-02
 2.982e-01 9.825e-02], Class Predicted = 1
 X447 = [1.205e+01 2.272e+01 7.875e+01 4.478e+02 6.935e-02 1.073e-01 7.943e-02
 2.978e-02 1.203e-01 6.659e-02 1.194e-01 1.434e+00 1.778e+00 9.549e+00
 5.042e-03 4.560e-02 4.305e-02 1.667e-02 2.470e-02 7.358e-03 1.257e+01
 2.871e+01 8.736e+01 4.884e+02 8.799e-02 3.214e-01 2.912e-01 1.092e-01
 2.191e-01 9.349e-02], Class Predicted = 1
 X448 = [1.029e+01 2.761e+01 6.567e+01 3.214e+02 9.030e-02 7.658e-02 5.999e-02
 2.738e-02 1.593e-01 6.127e-02 2.199e-01 2.239e+00 1.437e+00 1.446e+01
 1.205e-02 2.736e-02 4.804e-02 1.721e-02 1.843e-02 4.938e-03 1.084e+01
 3.491e+01 6.957e+01 3.576e+02 1.384e-01 1.710e-01 2.000e-01 9.127e-02
 2.226e-01 8.283e-02], Class Predicted = 1
 X449 = [1.200e+01 1.565e+01 7.695e+01 4.433e+02 9.723e-02 7.165e-02 4.151e-02
 1.863e-02 2.079e-01 5.968e-02 2.271e-01 1.255e+00 1.441e+00 1.616e+01
 5.969e-03 1.812e-02 2.007e-02 7.027e-03 1.972e-02 2.607e-03 1.367e+01
 2.490e+01 8.778e+01 5.679e+02 1.377e-01 2.003e-01 2.267e-01 7.632e-02
 3.379e-01 7.924e-02], Class Predicted = 1
 X450 = [2.018e+01 2.397e+01 1.437e+02 1.245e+03 1.286e-01 3.454e-01 3.754e-01
 1.604e-01 2.906e-01 8.142e-02 9.317e-01 1.885e+00 8.649e+00 1.164e+02
 1.038e-02 6.835e-02 1.091e-01 2.593e-02 7.895e-02 5.987e-03 2.337e+01
 3.172e+01 1.703e+02 1.623e+03 1.639e-01 6.164e-01 7.681e-01 2.508e-01
 5.440e-01 9.964e-02], Class Predicted = 0
 X451 = [1.480e+01 1.766e+01 9.588e+01 6.748e+02 9.179e-02 8.890e-02 4.069e-02
 2.260e-02 1.893e-01 5.886e-02 2.204e-01 6.221e-01 1.482e+00 1.975e+01
 4.796e-03 1.171e-02 1.758e-02 6.897e-03 2.254e-02 1.971e-03 1.643e+01
 2.274e+01 1.059e+02 8.295e+02 1.226e-01 1.881e-01 2.060e-01 8.308e-02
 3.600e-01 7.285e-02], Class Predicted = 1

X452 = [1.955e+01 2.321e+01 1.289e+02 1.174e+03 1.010e-01 1.318e-01 1.856e-01
 1.021e-01 1.989e-01 5.884e-02 6.107e-01 2.836e+00 5.383e+00 7.010e+01
 1.124e-02 4.097e-02 7.469e-02 3.441e-02 2.768e-02 6.240e-03 2.082e+01
 3.044e+01 1.420e+02 1.313e+03 1.251e-01 2.414e-01 3.829e-01 1.825e-01
 2.576e-01 7.602e-02], Class Predicted = 0
 X453 = [1.122e+01 1.986e+01 7.194e+01 3.873e+02 1.054e-01 6.779e-02 5.006e-03
 7.583e-03 1.940e-01 6.028e-02 2.976e-01 1.966e+00 1.959e+00 1.962e+01
 1.289e-02 1.104e-02 3.297e-03 4.967e-03 4.243e-02 1.963e-03 1.198e+01
 2.578e+01 7.691e+01 4.361e+02 1.424e-01 9.669e-02 1.335e-02 2.022e-02
 3.292e-01 6.522e-02], Class Predicted = 1
 X454 = [8.734e+00 1.684e+01 5.527e+01 2.343e+02 1.039e-01 7.428e-02 0.000e+00
 0.000e+00 1.985e-01 7.098e-02 5.169e-01 2.079e+00 3.167e+00 2.885e+01
 1.582e-02 1.966e-02 0.000e+00 0.000e+00 1.865e-02 6.736e-03 1.017e+01
 2.280e+01 6.401e+01 3.170e+02 1.460e-01 1.310e-01 0.000e+00 0.000e+00
 2.445e-01 8.865e-02], Class Predicted = 1
 X455 = [1.917e+01 2.480e+01 1.324e+02 1.123e+03 9.740e-02 2.458e-01 2.065e-01
 1.118e-01 2.397e-01 7.800e-02 9.555e-01 3.568e+00 1.107e+01 1.162e+02
 3.139e-03 8.297e-02 8.890e-02 4.090e-02 4.484e-02 1.284e-02 2.096e+01
 2.994e+01 1.517e+02 1.332e+03 1.037e-01 3.903e-01 3.639e-01 1.767e-01
 3.176e-01 1.023e-01], Class Predicted = 0
 X456 = [1.385e+01 1.721e+01 8.844e+01 5.887e+02 8.785e-02 6.136e-02 1.420e-02
 1.141e-02 1.614e-01 5.890e-02 2.185e-01 8.561e-01 1.495e+00 1.791e+01
 4.599e-03 9.169e-03 9.127e-03 4.814e-03 1.247e-02 1.708e-03 1.549e+01
 2.358e+01 1.003e+02 7.259e+02 1.157e-01 1.350e-01 8.115e-02 5.104e-02
 2.364e-01 7.182e-02], Class Predicted = 1
 X457 = [1.106e+01 1.712e+01 7.125e+01 3.665e+02 1.194e-01 1.071e-01 4.063e-02
 4.268e-02 1.954e-01 7.976e-02 1.779e-01 1.030e+00 1.318e+00 1.230e+01
 1.262e-02 2.348e-02 1.800e-02 1.285e-02 2.220e-02 8.313e-03 1.169e+01
 2.074e+01 7.608e+01 4.111e+02 1.662e-01 2.031e-01 1.256e-01 9.514e-02
 2.780e-01 1.168e-01], Class Predicted = 1
 X458 = [1.669e+01 2.020e+01 1.071e+02 8.576e+02 7.497e-02 7.112e-02 3.649e-02
 2.307e-02 1.846e-01 5.325e-02 2.473e-01 5.679e-01 1.775e+00 2.295e+01
 2.667e-03 1.446e-02 1.423e-02 5.297e-03 1.961e-02 1.700e-03 1.918e+01
 2.656e+01 1.273e+02 1.084e+03 1.009e-01 2.920e-01 2.477e-01 8.737e-02
 4.677e-01 7.623e-02], Class Predicted = 0
 X459 = [9.720e+00 1.822e+01 6.073e+01 2.881e+02 6.950e-02 2.344e-02 0.000e+00
 0.000e+00 1.653e-01 6.447e-02 3.539e-01 4.885e+00 2.230e+00 2.169e+01
 1.713e-03 6.736e-03 0.000e+00 0.000e+00 3.799e-02 1.688e-03 9.968e+00
 2.083e+01 6.225e+01 3.038e+02 7.117e-02 2.729e-02 0.000e+00 0.000e+00
 1.909e-01 6.559e-02], Class Predicted = 1
 X460 = [1.298e+01 1.935e+01 8.452e+01 5.140e+02 9.579e-02 1.125e-01 7.107e-02
 2.950e-02 1.761e-01 6.540e-02 2.684e-01 5.664e-01 2.465e+00 2.065e+01
 5.727e-03 3.255e-02 4.393e-02 9.811e-03 2.751e-02 4.572e-03 1.442e+01
 2.195e+01 9.921e+01 6.343e+02 1.288e-01 3.253e-01 3.439e-01 9.858e-02
 3.596e-01 9.166e-02], Class Predicted = 1
 X461 = [2.048e+01 2.146e+01 1.325e+02 1.306e+03 8.355e-02 8.348e-02 9.042e-02
 6.022e-02 1.467e-01 5.177e-02 6.874e-01 1.041e+00 5.144e+00 8.350e+01
 7.959e-03 3.133e-02 4.257e-02 1.671e-02 1.341e-02 3.933e-03 2.422e+01
 2.617e+01 1.617e+02 1.750e+03 1.228e-01 2.311e-01 3.158e-01 1.445e-01
 2.238e-01 7.127e-02], Class Predicted = 0
 X462 = [1.016e+01 1.959e+01 6.473e+01 3.117e+02 1.003e-01 7.504e-02 5.025e-03
 1.116e-02 1.791e-01 6.331e-02 2.441e-01 2.090e+00 1.648e+00 1.680e+01
 1.291e-02 2.222e-02 4.174e-03 7.082e-03 2.572e-02 2.278e-03 1.065e+01
 2.288e+01 6.788e+01 3.473e+02 1.265e-01 1.200e-01 1.005e-02 2.232e-02
 2.262e-01 6.742e-02], Class Predicted = 1
 X463 = [1.385e+01 1.960e+01 8.868e+01 5.926e+02 8.684e-02 6.330e-02 1.342e-02
 2.293e-02 1.555e-01 5.673e-02 3.419e-01 1.678e+00 2.331e+00 2.963e+01
 5.836e-03 1.095e-02 5.812e-03 7.039e-03 2.014e-02 2.326e-03 1.563e+01
 2.801e+01 1.009e+02 7.491e+02 1.118e-01 1.141e-01 4.753e-02 5.890e-02
 2.513e-01 6.911e-02], Class Predicted = 1
 X464 = [1.321e+01 2.525e+01 8.410e+01 5.379e+02 8.791e-02 5.205e-02 2.772e-02
 2.068e-02 1.619e-01 5.584e-02 2.084e-01 1.350e+00 1.314e+00 1.758e+01
 5.768e-03 8.082e-03 1.510e-02 6.451e-03 1.347e-02 1.828e-03 1.435e+01
 3.423e+01 9.129e+01 6.329e+02 1.289e-01 1.063e-01 1.390e-01 6.005e-02
 2.444e-01 6.788e-02], Class Predicted = 1
 X465 = [1.113e+01 1.662e+01 7.047e+01 3.811e+02 8.151e-02 3.834e-02 1.369e-02
 1.370e-02 1.511e-01 6.148e-02 1.415e-01 9.671e-01 9.680e-01 9.704e+00
 5.883e-03 6.263e-03 9.398e-03 6.189e-03 2.009e-02 2.377e-03 1.168e+01
 2.029e+01 7.435e+01 4.211e+02 1.030e-01 6.219e-02 4.580e-02 4.044e-02

2.383e-01 7.083e-02], Class Predicted = 1
 X466 = [1.861e+01 2.025e+01 1.221e+02 1.094e+03 9.440e-02 1.066e-01 1.490e-01
 7.731e-02 1.697e-01 5.699e-02 8.529e-01 1.849e+00 5.632e+00 9.354e+01
 1.075e-02 2.722e-02 5.081e-02 1.911e-02 2.293e-02 4.217e-03 2.131e+01
 2.726e+01 1.399e+02 1.403e+03 1.338e-01 2.117e-01 3.446e-01 1.490e-01
 2.341e-01 7.421e-02], Class Predicted = 0
 X467 = [1.324e+01 2.013e+01 8.687e+01 5.429e+02 8.284e-02 1.223e-01 1.010e-01
 2.833e-02 1.601e-01 6.432e-02 2.810e-01 8.135e-01 3.369e+00 2.381e+01
 4.929e-03 6.657e-02 7.683e-02 1.368e-02 1.526e-02 8.133e-03 1.544e+01
 2.550e+01 1.150e+02 7.335e+02 1.201e-01 5.646e-01 6.556e-01 1.357e-01
 2.845e-01 1.249e-01], Class Predicted = 0
 X468 = [1.225e+01 1.794e+01 7.827e+01 4.603e+02 8.654e-02 6.679e-02 3.885e-02
 2.331e-02 1.970e-01 6.228e-02 2.200e-01 9.823e-01 1.484e+00 1.651e+01
 5.518e-03 1.562e-02 1.994e-02 7.924e-03 1.799e-02 2.484e-03 1.359e+01
 2.522e+01 8.660e+01 5.642e+02 1.217e-01 1.788e-01 1.943e-01 8.211e-02
 3.113e-01 8.132e-02], Class Predicted = 1
 X469 = [1.025e+01 1.618e+01 6.652e+01 3.242e+02 1.061e-01 1.111e-01 6.726e-02
 3.965e-02 1.743e-01 7.279e-02 3.677e-01 1.471e+00 1.597e+00 2.268e+01
 1.049e-02 4.265e-02 4.004e-02 1.544e-02 2.719e-02 7.596e-03 1.128e+01
 2.061e+01 7.153e+01 3.904e+02 1.402e-01 2.360e-01 1.898e-01 9.744e-02
 2.608e-01 9.702e-02], Class Predicted = 1
 X470 = [1.500e+01 1.551e+01 9.745e+01 6.845e+02 8.371e-02 1.096e-01 6.505e-02
 3.780e-02 1.881e-01 5.907e-02 2.318e-01 4.966e-01 2.276e+00 1.988e+01
 4.119e-03 3.207e-02 3.644e-02 1.155e-02 1.391e-02 3.204e-03 1.641e+01
 1.931e+01 1.142e+02 8.082e+02 1.136e-01 3.627e-01 3.402e-01 1.379e-01
 2.954e-01 8.362e-02], Class Predicted = 0
 X471 = [1.497e+01 1.695e+01 9.622e+01 6.859e+02 9.855e-02 7.885e-02 2.602e-02
 3.781e-02 1.780e-01 5.650e-02 2.713e-01 1.217e+00 1.893e+00 2.428e+01
 5.080e-03 1.370e-02 7.276e-03 9.073e-03 1.350e-02 1.706e-03 1.611e+01
 2.300e+01 1.046e+02 7.937e+02 1.216e-01 1.637e-01 6.648e-02 8.485e-02
 2.404e-01 6.428e-02], Class Predicted = 1
 X472 = [1.308e+01 1.571e+01 8.563e+01 5.200e+02 1.075e-01 1.270e-01 4.568e-02
 3.110e-02 1.967e-01 6.811e-02 1.852e-01 7.477e-01 1.383e+00 1.467e+01
 4.097e-03 1.898e-02 1.698e-02 6.490e-03 1.678e-02 2.425e-03 1.450e+01
 2.049e+01 9.609e+01 6.305e+02 1.312e-01 2.776e-01 1.890e-01 7.283e-02
 3.184e-01 8.183e-02], Class Predicted = 1
 X473 = [1.613e+01 1.788e+01 1.070e+02 8.072e+02 1.040e-01 1.559e-01 1.354e-01
 7.752e-02 1.998e-01 6.515e-02 3.340e-01 6.857e-01 2.183e+00 3.503e+01
 4.185e-03 2.868e-02 2.664e-02 9.067e-03 1.703e-02 3.817e-03 2.021e+01
 2.726e+01 1.327e+02 1.261e+03 1.446e-01 5.804e-01 5.274e-01 1.864e-01
 4.270e-01 1.233e-01], Class Predicted = 0
 X474 = [1.204e+01 2.814e+01 7.685e+01 4.499e+02 8.752e-02 6.000e-02 2.367e-02
 2.377e-02 1.854e-01 5.698e-02 6.061e-01 2.643e+00 4.099e+00 4.496e+01
 7.517e-03 1.555e-02 1.465e-02 1.183e-02 2.047e-02 3.883e-03 1.360e+01
 3.333e+01 8.724e+01 5.676e+02 1.041e-01 9.726e-02 5.524e-02 5.547e-02
 2.404e-01 6.639e-02], Class Predicted = 1
 X475 = [1.207e+01 1.344e+01 7.783e+01 4.452e+02 1.100e-01 9.009e-02 3.781e-02
 2.798e-02 1.657e-01 6.608e-02 2.513e-01 5.040e-01 1.714e+00 1.854e+01
 7.327e-03 1.153e-02 1.798e-02 7.986e-03 1.962e-02 2.234e-03 1.345e+01
 1.577e+01 8.692e+01 5.499e+02 1.521e-01 1.632e-01 1.622e-01 7.393e-02
 2.781e-01 8.052e-02], Class Predicted = 1
 X476 = [1.168e+01 1.617e+01 7.549e+01 4.205e+02 1.128e-01 9.263e-02 4.279e-02
 3.132e-02 1.853e-01 6.401e-02 3.713e-01 1.154e+00 2.554e+00 2.757e+01
 8.998e-03 1.292e-02 1.851e-02 1.167e-02 2.152e-02 3.213e-03 1.332e+01
 2.159e+01 8.657e+01 5.498e+02 1.526e-01 1.477e-01 1.490e-01 9.815e-02
 2.804e-01 8.024e-02], Class Predicted = 1
 X477 = [9.683e+00 1.934e+01 6.105e+01 2.857e+02 8.491e-02 5.030e-02 2.337e-02
 9.615e-03 1.580e-01 6.235e-02 2.957e-01 1.363e+00 2.054e+00 1.824e+01
 7.440e-03 1.123e-02 2.337e-02 9.615e-03 2.203e-02 4.154e-03 1.093e+01
 2.559e+01 6.910e+01 3.642e+02 1.199e-01 9.546e-02 9.350e-02 3.846e-02
 2.552e-01 7.920e-02], Class Predicted = 1
 X478 = [1.247e+01 1.860e+01 8.109e+01 4.819e+02 9.965e-02 1.058e-01 8.005e-02
 3.821e-02 1.925e-01 6.373e-02 3.961e-01 1.044e+00 2.497e+00 3.029e+01
 6.953e-03 1.911e-02 2.701e-02 1.037e-02 1.782e-02 3.586e-03 1.497e+01
 2.464e+01 9.605e+01 6.779e+02 1.426e-01 2.378e-01 2.671e-01 1.015e-01
 3.014e-01 8.750e-02], Class Predicted = 1
 X479 = [1.490e+01 2.253e+01 1.021e+02 6.850e+02 9.947e-02 2.225e-01 2.733e-01
 9.711e-02 2.041e-01 6.898e-02 2.530e-01 8.749e-01 3.466e+00 2.419e+01
 6.965e-03 6.213e-02 7.926e-02 2.234e-02 1.499e-02 5.784e-03 1.635e+01

2.757e+01 1.254e+02 8.327e+02 1.419e-01 7.090e-01 9.019e-01 2.475e-01
 2.866e-01 1.155e-01], Class Predicted = 0
 X480 = [1.735e+01 2.306e+01 1.110e+02 9.331e+02 8.662e-02 6.290e-02 2.891e-02
 2.837e-02 1.564e-01 5.307e-02 4.007e-01 1.317e+00 2.577e+00 4.441e+01
 5.726e-03 1.106e-02 1.246e-02 7.671e-03 1.411e-02 1.578e-03 1.985e+01
 3.147e+01 1.282e+02 1.218e+03 1.240e-01 1.486e-01 1.211e-01 8.235e-02
 2.452e-01 6.515e-02], Class Predicted = 0
 X481 = [1.940e+01 2.350e+01 1.291e+02 1.155e+03 1.027e-01 1.558e-01 2.049e-01
 8.886e-02 1.978e-01 6.000e-02 5.243e-01 1.802e+00 4.037e+00 6.041e+01
 1.061e-02 3.252e-02 3.915e-02 1.559e-02 2.186e-02 3.949e-03 2.165e+01
 3.053e+01 1.449e+02 1.417e+03 1.463e-01 2.968e-01 3.458e-01 1.564e-01
 2.920e-01 7.614e-02], Class Predicted = 0
 X482 = [1.387e+01 2.070e+01 8.977e+01 5.848e+02 9.578e-02 1.018e-01 3.688e-02
 2.369e-02 1.620e-01 6.688e-02 2.720e-01 1.047e+00 2.076e+00 2.312e+01
 6.298e-03 2.172e-02 2.615e-02 9.061e-03 1.490e-02 3.599e-03 1.505e+01
 2.475e+01 9.917e+01 6.886e+02 1.264e-01 2.037e-01 1.377e-01 6.845e-02
 2.249e-01 8.492e-02], Class Predicted = 1
 X483 = [1.650e+01 1.829e+01 1.066e+02 8.381e+02 9.686e-02 8.468e-02 5.862e-02
 4.835e-02 1.495e-01 5.593e-02 3.389e-01 1.439e+00 2.344e+00 3.358e+01
 7.257e-03 1.805e-02 1.832e-02 1.033e-02 1.694e-02 2.001e-03 1.813e+01
 2.545e+01 1.172e+02 1.009e+03 1.338e-01 1.679e-01 1.663e-01 9.123e-02
 2.394e-01 6.469e-02], Class Predicted = 0
 X484 = [1.147e+01 1.603e+01 7.302e+01 4.027e+02 9.076e-02 5.886e-02 2.587e-02
 2.322e-02 1.634e-01 6.372e-02 1.707e-01 7.615e-01 1.090e+00 1.225e+01
 9.191e-03 8.548e-03 9.400e-03 6.315e-03 1.755e-02 3.009e-03 1.251e+01
 2.079e+01 7.967e+01 4.758e+02 1.531e-01 1.120e-01 9.823e-02 6.548e-02
 2.851e-01 8.763e-02], Class Predicted = 1
 X485 = [1.980e+01 2.156e+01 1.297e+02 1.230e+03 9.383e-02 1.306e-01 1.272e-01
 8.691e-02 2.094e-01 5.581e-02 9.553e-01 1.186e+00 6.487e+00 1.244e+02
 6.804e-03 3.169e-02 3.446e-02 1.712e-02 1.897e-02 4.045e-03 2.573e+01
 2.864e+01 1.703e+02 2.009e+03 1.353e-01 3.235e-01 3.617e-01 1.820e-01
 3.070e-01 8.255e-02], Class Predicted = 0
 X486 = [1.497e+01 1.976e+01 9.550e+01 6.902e+02 8.421e-02 5.352e-02 1.947e-02
 1.939e-02 1.515e-01 5.266e-02 1.840e-01 1.065e+00 1.286e+00 1.664e+01
 3.634e-03 7.983e-03 8.268e-03 6.432e-03 1.924e-02 1.520e-03 1.598e+01
 2.582e+01 1.023e+02 7.821e+02 1.045e-01 9.995e-02 7.750e-02 5.754e-02
 2.646e-01 6.085e-02], Class Predicted = 1
 X487 = [1.160e+01 1.836e+01 7.388e+01 4.127e+02 8.508e-02 5.855e-02 3.367e-02
 1.777e-02 1.516e-01 5.859e-02 1.816e-01 7.656e-01 1.303e+00 1.289e+01
 6.709e-03 1.701e-02 2.080e-02 7.497e-03 2.124e-02 2.768e-03 1.277e+01
 2.402e+01 8.268e+01 4.951e+02 1.342e-01 1.808e-01 1.860e-01 8.288e-02
 3.210e-01 7.863e-02], Class Predicted = 1
 X488 = [1.900e+01 1.891e+01 1.234e+02 1.138e+03 8.217e-02 8.028e-02 9.271e-02
 5.627e-02 1.946e-01 5.044e-02 6.896e-01 1.342e+00 5.216e+00 8.123e+01
 4.428e-03 2.731e-02 4.040e-02 1.361e-02 2.030e-02 2.686e-03 2.232e+01
 2.573e+01 1.482e+02 1.538e+03 1.021e-01 2.264e-01 3.207e-01 1.218e-01
 2.841e-01 6.541e-02], Class Predicted = 0
 X489 = [1.049e+01 1.929e+01 6.741e+01 3.361e+02 9.989e-02 8.578e-02 2.995e-02
 1.201e-02 2.217e-01 6.481e-02 3.550e-01 1.534e+00 2.302e+00 2.313e+01
 7.595e-03 2.219e-02 2.880e-02 8.614e-03 2.710e-02 3.451e-03 1.154e+01
 2.331e+01 7.422e+01 4.028e+02 1.219e-01 1.486e-01 7.987e-02 3.203e-02
 2.826e-01 7.552e-02], Class Predicted = 1
 X490 = [9.876e+00 1.727e+01 6.292e+01 2.954e+02 1.089e-01 7.232e-02 1.756e-02
 1.952e-02 1.934e-01 6.285e-02 2.137e-01 1.342e+00 1.517e+00 1.233e+01
 9.719e-03 1.249e-02 7.975e-03 7.527e-03 2.210e-02 2.472e-03 1.042e+01
 2.322e+01 6.708e+01 3.316e+02 1.415e-01 1.247e-01 6.213e-02 5.588e-02
 2.989e-01 7.380e-02], Class Predicted = 1
 X491 = [1.288e+01 1.822e+01 8.445e+01 4.931e+02 1.218e-01 1.661e-01 4.825e-02
 5.303e-02 1.709e-01 7.253e-02 4.426e-01 1.169e+00 3.176e+00 3.437e+01
 5.273e-03 2.329e-02 1.405e-02 1.244e-02 1.816e-02 3.299e-03 1.505e+01
 2.437e+01 9.931e+01 6.747e+02 1.456e-01 2.961e-01 1.246e-01 1.096e-01
 2.582e-01 8.893e-02], Class Predicted = 1
 X492 = [1.537e+01 2.276e+01 1.002e+02 7.282e+02 9.200e-02 1.036e-01 1.122e-01
 7.483e-02 1.717e-01 6.097e-02 3.129e-01 8.413e-01 2.075e+00 2.944e+01
 9.882e-03 2.444e-02 4.531e-02 1.763e-02 2.471e-02 2.142e-03 1.643e+01
 2.584e+01 1.075e+02 8.309e+02 1.257e-01 1.997e-01 2.846e-01 1.476e-01
 2.556e-01 6.828e-02], Class Predicted = 1
 X493 = [1.234e+01 1.495e+01 7.829e+01 4.691e+02 8.682e-02 4.571e-02 2.109e-02
 2.054e-02 1.571e-01 5.708e-02 3.833e-01 9.078e-01 2.602e+00 3.015e+01

7.702e-03 8.491e-03 1.307e-02 1.030e-02 2.970e-02 1.432e-03 1.318e+01
 1.685e+01 8.411e+01 5.331e+02 1.048e-01 6.744e-02 4.921e-02 4.793e-02
 2.298e-01 5.974e-02], Class Predicted = 1
 X494 = [2.327e+01 2.204e+01 1.521e+02 1.686e+03 8.439e-02 1.145e-01 1.324e-01
 9.702e-02 1.801e-01 5.553e-02 6.642e-01 8.561e-01 4.603e+00 9.785e+01
 4.910e-03 2.544e-02 2.822e-02 1.623e-02 1.956e-02 3.740e-03 2.801e+01
 2.822e+01 1.842e+02 2.403e+03 1.228e-01 3.583e-01 3.948e-01 2.346e-01
 3.589e-01 9.187e-02], Class Predicted = 0
 X495 = [1.164e+01 1.833e+01 7.517e+01 4.125e+02 1.142e-01 1.017e-01 7.070e-02
 3.485e-02 1.801e-01 6.520e-02 3.060e-01 1.657e+00 2.155e+00 2.062e+01
 8.540e-03 2.310e-02 2.945e-02 1.398e-02 1.565e-02 3.840e-03 1.314e+01
 2.926e+01 8.551e+01 5.217e+02 1.688e-01 2.660e-01 2.873e-01 1.218e-01
 2.806e-01 9.097e-02], Class Predicted = 1
 X496 = [1.230e+01 1.902e+01 7.788e+01 4.644e+02 8.313e-02 4.202e-02 7.756e-03
 8.535e-03 1.539e-01 5.945e-02 1.840e-01 1.532e+00 1.199e+00 1.324e+01
 7.881e-03 8.432e-03 7.004e-03 6.522e-03 1.939e-02 2.222e-03 1.335e+01
 2.846e+01 8.453e+01 5.443e+02 1.222e-01 9.052e-02 3.619e-02 3.983e-02
 2.554e-01 7.207e-02], Class Predicted = 1
 X497 = [1.918e+01 2.249e+01 1.275e+02 1.148e+03 8.523e-02 1.428e-01 1.114e-01
 6.772e-02 1.767e-01 5.529e-02 4.357e-01 1.073e+00 3.833e+00 5.422e+01
 5.524e-03 3.698e-02 2.706e-02 1.221e-02 1.415e-02 3.397e-03 2.336e+01
 3.206e+01 1.664e+02 1.688e+03 1.322e-01 5.601e-01 3.865e-01 1.708e-01
 3.193e-01 9.221e-02], Class Predicted = 0
 X498 = [1.678e+01 1.880e+01 1.093e+02 8.863e+02 8.865e-02 9.182e-02 8.422e-02
 6.576e-02 1.893e-01 5.534e-02 5.990e-01 1.391e+00 4.129e+00 6.734e+01
 6.123e-03 2.470e-02 2.626e-02 1.604e-02 2.091e-02 3.493e-03 2.005e+01
 2.630e+01 1.307e+02 1.260e+03 1.168e-01 2.119e-01 2.318e-01 1.474e-01
 2.810e-01 7.228e-02], Class Predicted = 0
 X499 = [1.630e+01 1.570e+01 1.047e+02 8.198e+02 9.427e-02 6.712e-02 5.526e-02
 4.563e-02 1.711e-01 5.657e-02 2.067e-01 4.706e-01 1.146e+00 2.067e+01
 7.394e-03 1.203e-02 2.470e-02 1.431e-02 1.344e-02 2.569e-03 1.732e+01
 1.776e+01 1.098e+02 9.282e+02 1.354e-01 1.361e-01 1.947e-01 1.357e-01
 2.300e-01 7.230e-02], Class Predicted = 1
 X500 = [1.701e+01 2.026e+01 1.097e+02 9.043e+02 8.772e-02 7.304e-02 6.950e-02
 5.390e-02 2.026e-01 5.223e-02 5.858e-01 8.554e-01 4.106e+00 6.846e+01
 5.038e-03 1.503e-02 1.946e-02 1.123e-02 2.294e-02 2.581e-03 1.980e+01
 2.505e+01 1.300e+02 1.210e+03 1.111e-01 1.486e-01 1.932e-01 1.096e-01
 3.275e-01 6.469e-02], Class Predicted = 0
 X501 = [1.026e+01 1.658e+01 6.585e+01 3.208e+02 8.877e-02 8.066e-02 4.358e-02
 2.438e-02 1.669e-01 6.714e-02 1.144e-01 1.023e+00 9.887e-01 7.326e+00
 1.027e-02 3.084e-02 2.613e-02 1.097e-02 2.277e-02 5.890e-03 1.083e+01
 2.204e+01 7.108e+01 3.574e+02 1.461e-01 2.246e-01 1.783e-01 8.333e-02
 2.691e-01 9.479e-02], Class Predicted = 1
 X502 = [7.729e+00 2.549e+01 4.798e+01 1.788e+02 8.098e-02 4.878e-02 0.000e+00
 0.000e+00 1.870e-01 7.285e-02 3.777e-01 1.462e+00 2.492e+00 1.914e+01
 1.266e-02 9.692e-03 0.000e+00 0.000e+00 2.882e-02 6.872e-03 9.077e+00
 3.092e+01 5.717e+01 2.480e+02 1.256e-01 8.340e-02 0.000e+00 0.000e+00
 3.058e-01 9.938e-02], Class Predicted = 1
 X503 = [1.281e+01 1.306e+01 8.129e+01 5.088e+02 8.739e-02 3.774e-02 9.193e-03
 1.330e-02 1.466e-01 6.133e-02 2.889e-01 9.899e-01 1.778e+00 2.179e+01
 8.534e-03 6.364e-03 6.180e-03 7.408e-03 1.065e-02 3.351e-03 1.363e+01
 1.615e+01 8.670e+01 5.707e+02 1.162e-01 5.445e-02 2.758e-02 3.990e-02
 1.783e-01 7.319e-02], Class Predicted = 1
 X504 = [1.953e+01 3.247e+01 1.280e+02 1.223e+03 8.420e-02 1.130e-01 1.145e-01
 6.637e-02 1.428e-01 5.313e-02 7.392e-01 1.321e+00 4.722e+00 1.099e+02
 5.539e-03 2.644e-02 2.664e-02 1.078e-02 1.332e-02 2.256e-03 2.790e+01
 4.541e+01 1.802e+02 2.477e+03 1.408e-01 4.097e-01 3.995e-01 1.625e-01
 2.713e-01 7.568e-02], Class Predicted = 0
 X505 = [9.731e+00 1.534e+01 6.378e+01 3.002e+02 1.072e-01 1.599e-01 4.108e-01
 7.857e-02 2.548e-01 9.296e-02 8.245e-01 2.664e+00 4.073e+00 4.985e+01
 1.097e-02 9.586e-02 3.960e-01 5.279e-02 3.546e-02 2.984e-02 1.102e+01
 1.949e+01 7.104e+01 3.805e+02 1.292e-01 2.772e-01 8.216e-01 1.571e-01
 3.108e-01 1.259e-01], Class Predicted = 1
 X506 = [1.305e+01 1.384e+01 8.271e+01 5.306e+02 8.352e-02 3.735e-02 4.559e-03
 8.829e-03 1.453e-01 5.518e-02 3.975e-01 8.285e-01 2.567e+00 3.301e+01
 4.148e-03 4.711e-03 2.831e-03 4.821e-03 1.422e-02 2.273e-03 1.473e+01
 1.740e+01 9.396e+01 6.724e+02 1.016e-01 5.847e-02 1.824e-02 3.532e-02
 2.107e-01 6.580e-02], Class Predicted = 1
 X507 = [1.265e+01 1.817e+01 8.269e+01 4.856e+02 1.076e-01 1.334e-01 8.017e-02

```

5.074e-02 1.641e-01 6.854e-02 2.324e-01 6.332e-01 1.696e+00 1.840e+01
5.704e-03 2.502e-02 2.636e-02 1.032e-02 1.759e-02 3.563e-03 1.438e+01
2.215e+01 9.529e+01 6.337e+02 1.533e-01 3.842e-01 3.582e-01 1.407e-01
3.230e-01 1.033e-01], Class Predicted = 1
X508 = [2.013e+01 2.825e+01 1.312e+02 1.261e+03 9.780e-02 1.034e-01 1.440e-01
9.791e-02 1.752e-01 5.533e-02 7.655e-01 2.463e+00 5.203e+00 9.904e+01
5.769e-03 2.423e-02 3.950e-02 1.678e-02 1.898e-02 2.498e-03 2.369e+01
3.825e+01 1.550e+02 1.731e+03 1.166e-01 1.922e-01 3.215e-01 1.628e-01
2.572e-01 6.637e-02], Class Predicted = 0
X509 = [1.137e+01 1.889e+01 7.217e+01 3.960e+02 8.713e-02 5.008e-02 2.399e-02
2.173e-02 2.013e-01 5.955e-02 2.656e-01 1.974e+00 1.954e+00 1.749e+01
6.538e-03 1.395e-02 1.376e-02 9.924e-03 3.416e-02 2.928e-03 1.236e+01
2.614e+01 7.929e+01 4.593e+02 1.118e-01 9.708e-02 7.529e-02 6.203e-02
3.267e-01 6.994e-02], Class Predicted = 1
X510 = [2.722e+01 2.187e+01 1.821e+02 2.250e+03 1.094e-01 1.914e-01 2.871e-01
1.878e-01 1.800e-01 5.770e-02 8.361e-01 1.481e+00 5.820e+00 1.287e+02
4.631e-03 2.537e-02 3.109e-02 1.241e-02 1.575e-02 2.747e-03 3.312e+01
3.285e+01 2.208e+02 3.216e+03 1.472e-01 4.034e-01 5.340e-01 2.688e-01
2.856e-01 8.082e-02], Class Predicted = 0
X511 = [9.436e+00 1.832e+01 5.982e+01 2.786e+02 1.009e-01 5.956e-02 2.710e-02
1.406e-02 1.506e-01 6.959e-02 5.079e-01 1.247e+00 3.267e+00 3.048e+01
6.836e-03 8.982e-03 2.348e-02 6.565e-03 1.942e-02 2.713e-03 1.202e+01
2.502e+01 7.579e+01 4.396e+02 1.333e-01 1.049e-01 1.144e-01 5.052e-02
2.454e-01 8.136e-02], Class Predicted = 1
X512 = [1.365e+01 1.316e+01 8.788e+01 5.689e+02 9.646e-02 8.711e-02 3.888e-02
2.563e-02 1.360e-01 6.344e-02 2.102e-01 4.336e-01 1.391e+00 1.740e+01
4.133e-03 1.695e-02 1.652e-02 6.659e-03 1.371e-02 2.735e-03 1.534e+01
1.635e+01 9.971e+01 7.062e+02 1.311e-01 2.474e-01 1.759e-01 8.056e-02
2.380e-01 8.718e-02], Class Predicted = 1

```

5.3.2 Testing Predictions

```
In [ ]: #Model score in training returns the coefficient of determination R^2 where 1=100%
svm_model.score(x_train, y_train)
```

Out[]: 0.9642857142857143

5.2.3 Metrics & Scoring

```
In [ ]: #Accuracy Score
accuracy_score(y_test, test_pred)
```

Out[]: 0.9181286549707602

```
In [ ]: # Find R Squared
correlation_matrix = np.corrcoef(y_test, test_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

0.6806133990188526

```
In [ ]: #ROC Score
roc_auc_score(y_test, svm_model.predict(x_test), multi_class='ovr')
```

Out[]: 0.8985724041494586

```
In [ ]: #F1 Score
print(f1_score(y_test, test_pred, average='macro'))
```

```
print(f1_score(y_test, test_pred, average='micro'))
print(f1_score(y_test, test_pred, average='weighted'))
```

```
0.9096679523729667
0.9181286549707602
0.9167275195087052
```

In []:

```
#Precision Score
print(precision_score(y_test, test_pred, average='macro'))
print(precision_score(y_test, test_pred, average='micro'))
print(precision_score(y_test, test_pred, average='weighted'))
```

```
0.9269070010449321
0.9181286549707602
0.9206230483907435
```

In []:

```
#Recall Score
print(recall_score(y_test, test_pred, average='macro'))
print(recall_score(y_test, test_pred, average='micro'))
print(recall_score(y_test, test_pred, average='weighted'))
```

```
0.8985724041494585
0.9181286549707602
0.9181286549707602
```

In []:

```
#Cohen Kappa Score
cohen_kappa_score(y_test, test_pred)
```

Out[]: 0.8198464857271861

In []:

```
mse = mean_squared_error(y_test, test_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.29
```

5.2.4 Confusion Matrix

In []:

```
cm = np.array(confusion_matrix(y_test, test_pred, labels=[1,0]))
confusion = pd.DataFrame(cm, index=['is_cancer', 'is_healthy'],
                         columns=['predicted_cancer','predicted_healthy'])
confusion
```

Out[]:

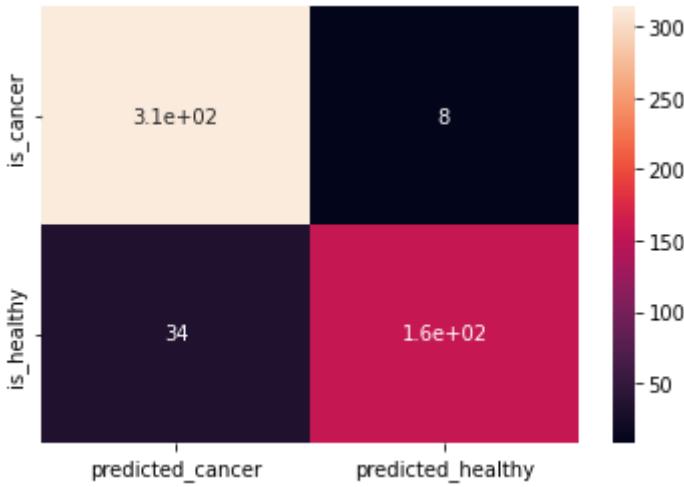
	predicted_cancer	predicted_healthy
is_cancer	314	8
is_healthy	34	157

In []:

```
sns.heatmap(confusion, annot=True)
```

Out[]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x7fc842692dd0>
```



3.2.5 Cross-Validation

```
In [ ]: x_shuffle, y2_shuffle = shuffle(x, y, random_state=7)
```

```
In [ ]: scores = cross_val_score(svm_model, x_shuffle, y_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.23 0.16 0.3 0.19 0.21]
RMSE average: 0.217096067430609

5.2.6 K-Fold

```
In [ ]:
#Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(x):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0  2  3  4  5  6  7  8  9  11 13 16 18 19 20 22 23 24
      25 26 27 28 29 30 32 33 34 35 36 38 39 40 41 42 43 44
      47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 65
      67 68 69 70 72 73 74 77 79 80 81 82 83 84 86 87 88 91
      92 93 94 95 97 98 99 100 101 104 105 106 109 110 111 112 114 115
     116 117 119 120 121 122 123 124 125 126 128 129 130 131 133 135 136 137
     138 139 141 143 144 145 146 147 148 149 150 151 152 153 154 155 156 158
     160 161 163 164 166 167 168 169 171 173 174 176 177 178 180 181 182 183
     184 186 187 189 191 192 193 195 197 198 199 200 201 202 203 204 206 207
     209 212 214 215 216 217 218 219 220 221 222 223 226 227 228 229 230 232
     234 237 238 240 241 243 244 245 246 248 251 252 253 254 255 256 257 258
     259 260 261 262 265 266 267 269 270 273 274 275 276 277 278 279 280 282
     284 285 286 287 288 289 290 291 292 293 294 295 296 297 299 300 302 303
     304 305 307 309 311 312 314 315 316 317 320 321 322 323 324 326 327 328
     329 331 332 333 334 335 336 339 341 342 343 344 346 347 349 351 352 355
     357 359 360 361 362 363 365 367 368 369 370 371 373 374 375 376 377 378
     379 381 383 386 387 388 390 392 393 394 395 396 397 398 399 402 403 404
     405 407 408 409 410 411 415 418 419 421 422 423 424 425 426 428 429 430 431
     433 435 436 437 438 440 441 442 443 444 445 446 447 448 449 450 451 452
     453 454 455 456 459 460 461 462 464 467 470 472 474 475 476 477 478 479
     480 481 483 484 485 486 487 488 489 491 493 494 495 496 497 498 499 501
     502 503 505 506 507 508 509 510 511 513 517 520 521 522 523 524 526 528
     529 530 531 532 533 534 535 536 537 539 540 541 543 544 545 546 548 549 551
```

552 553 554 555 556 557 558 559 561 563 565 568]
Test: [1 10 12 14 15 17 21 31 37 45 46 64 66 71 75 76 78 85
89 90 96 102 103 107 108 113 118 127 132 134 140 142 157 159 162 165
170 172 175 179 185 188 190 194 196 205 208 210 211 213 224 225 231 233
235 236 239 242 247 249 250 263 264 268 271 272 281 283 298 301 306 308
310 313 318 319 325 330 337 338 340 345 348 350 353 354 356 358 364 366
372 380 382 384 385 389 391 400 401 406 412 413 414 416 417 420 421 427
432 434 439 457 458 463 465 466 468 469 471 473 482 490 492 500 504 512
514 515 516 518 519 525 527 538 542 546 547 550 560 562 564 566 567]

Train: [0 1 2 3 9 10 11 12 13 14 15 16 17 19 21 23 24 25
27 28 29 31 32 33 35 36 37 39 40 41 42 43 44 45 46 47
48 50 53 57 58 61 62 64 66 67 69 70 71 72 73 75 76 77
78 79 80 82 83 84 85 86 87 88 89 90 91 94 95 96 98 99
102 103 104 107 108 109 110 111 113 114 115 117 118 119 121 123 125 127
128 129 130 131 132 133 134 136 138 139 140 142 143 145 146 147 148 149
150 151 152 156 157 159 161 162 163 165 166 168 169 170 172 174 175 176
177 178 179 180 182 183 184 185 187 188 189 190 192 193 194 196 197 198
199 201 203 204 205 207 208 209 210 211 212 213 214 215 216 217 218 221
222 223 224 225 226 227 228 231 232 233 234 235 236 237 239 241 242 244
247 248 249 250 251 253 254 255 256 257 258 259 260 263 264 265 266 267
268 269 270 271 272 273 274 275 277 279 280 281 283 286 287 288 289 290
291 292 294 295 296 297 298 300 301 302 304 305 306 307 308 309 310 311
313 314 317 318 319 321 323 324 325 326 327 328 330 331 335 337 338 340
341 342 345 348 349 350 351 352 353 354 356 358 359 360 362 363 364 365
366 368 369 370 371 372 373 374 375 376 377 380 381 382 383 384 385 386
387 388 389 391 393 394 395 396 397 398 399 400 401 402 404 405 406 407
410 411 412 413 414 416 417 418 419 420 421 422 423 424 426 427 430 431
432 433 434 435 438 439 442 443 444 445 446 447 448 449 450 451 452 455
456 457 458 459 460 461 462 463 465 466 467 468 469 470 471 472 473 475
476 480 482 483 485 486 488 490 491 492 493 494 495 496 497 498 500 501
504 506 507 509 510 511 512 513 514 515 516 518 519 520 521 522 524 525
527 528 529 530 532 533 535 536 537 538 539 540 541 542 543 544 545 546
547 550 551 552 556 558 559 560 562 564 566 567 568]

Test: [4 5 6 7 8 18 20 22 26 30 34 38 49 51 52 54 55 56
59 60 63 65 68 74 81 92 93 97 100 101 105 106 112 116 120 122
124 126 135 137 141 144 153 154 155 158 160 164 167 171 173 181 186 191
195 200 202 206 219 220 229 230 238 240 243 245 246 252 261 262 276 278
282 284 285 293 299 303 312 315 316 320 322 329 332 333 334 336 339 343
344 346 347 355 357 361 367 378 379 390 392 403 408 409 415 425 428 429
436 437 440 441 453 454 464 474 477 478 479 481 484 487 489 499 502 503
505 508 517 523 526 531 534 548 549 553 554 555 557 561 563 565]

Train: [0 1 3 4 5 6 7 8 9 10 11 12 14 15 17 18 20 21
22 23 26 28 30 31 32 34 36 37 38 41 42 43 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 62 63 64 65 66 68
69 70 71 72 74 75 76 77 78 80 81 82 84 85 86 87 89 90
91 92 93 94 95 96 97 98 99 100 101 102 103 105 106 107 108 112
113 115 116 118 119 120 122 123 124 125 126 127 128 130 131 132 134 135
137 140 141 142 143 144 147 148 151 153 154 155 157 158 159 160 162 163
164 165 167 169 170 171 172 173 174 175 177 178 179 180 181 182 183 184
185 186 187 188 190 191 192 193 194 195 196 197 200 201 202 203 205 206
207 208 209 210 211 213 219 220 222 224 225 226 227 229 230 231 233 235
236 238 239 240 242 243 244 245 246 247 249 250 252 256 257 258 261 262
263 264 265 266 268 270 271 272 273 275 276 277 278 279 280 281 282 283
284 285 286 288 291 292 293 294 298 299 301 303 304 305 306 307 308 310
312 313 314 315 316 318 319 320 321 322 324 325 329 330 332 333 334 335
336 337 338 339 340 341 343 344 345 346 347 348 349 350 353 354 355 356
357 358 359 360 361 364 366 367 368 369 370 371 372 373 377 378 379 380
382 383 384 385 387 388 389 390 391 392 394 396 397 398 400 401 403 405
406 408 409 411 412 413 414 415 416 417 418 419 420 421 423 425 427 428
429 430 431 432 434 436 437 439 440 441 442 446 448 451 453 454 457 458
459 461 463 464 465 466 468 469 471 472 473 474 476 477 478 479 480 481
482 484 485 486 487 488 489 490 492 495 499 500 502 503 504 505 508 509
510 511 512 514 515 516 517 518 519 521 522 523 525 526 527 528 529 531
534 535 536 537 538 540 542 543 544 546 547 548 549 550 551 553 554 555
556 557 558 559 560 561 562 563 564 565 566 567 568]

Test: [2 13 16 19 24 25 27 29 33 35 39 40 44 61 67 73 79 83
88 104 109 110 111 114 117 121 129 133 136 138 139 145 146 149 150 152

```

156 161 166 168 176 189 198 199 204 212 214 215 216 217 218 221 223 228
232 234 237 241 248 251 253 254 255 259 260 267 269 274 287 289 290 295
296 297 300 302 309 311 317 323 326 327 328 331 342 351 352 362 363 365
374 375 376 381 386 393 395 399 402 404 407 410 422 424 426 433 435 438
443 444 445 447 449 450 452 455 456 460 462 467 470 475 483 491 493 494
496 497 498 501 506 507 513 520 524 530 532 533 539 541 545 552]

Train: [ 1   2   4   5   6   7   8   10  12  13  14  15  16  17  18  19  20  21
        22  24  25  26  27  29  30  31  33  34  35  37  38  39  40  44  45  46
        49  51  52  54  55  56  59  60  61  63  64  65  66  67  68  71  73  74
        75  76  78  79  81  83  85  88  89  90  92  93  96  97  100 101 102 103
       104 105 106 107 108 109 110 111 112 113 114 116 117 118 120 121 122 124
       126 127 129 132 133 134 135 136 137 138 139 140 141 142 144 145 146 149
       150 152 153 154 155 156 157 158 159 160 161 162 164 165 166 167 168 170
       171 172 173 175 176 179 181 185 186 188 189 190 191 194 195 196 198 199
       200 202 204 205 206 208 210 211 212 213 214 215 216 217 218 219 220 221
       223 224 225 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242
       243 245 246 247 248 249 250 251 252 253 254 255 259 260 261 262 263 264
       267 268 269 271 272 274 276 278 281 282 283 284 285 287 289 290 293 295
       296 297 298 299 300 301 302 303 306 308 309 310 311 312 313 315 316 317
       318 319 320 322 323 325 326 327 328 329 330 331 332 333 334 336 337 338
       339 340 342 343 344 345 346 347 348 350 351 352 353 354 355 356 357 358
       361 362 363 364 365 366 367 372 374 375 376 378 379 380 381 382 384 385
       386 389 390 391 392 393 395 399 400 401 402 403 404 406 407 408 409 410
       412 413 414 415 416 417 420 421 422 424 425 426 427 428 429 432 433 434
       435 436 437 438 439 440 441 443 444 445 447 449 450 452 453 454 455 456
       457 458 460 462 463 464 465 466 467 468 469 470 471 473 474 475 477 478
       479 481 482 483 484 487 489 490 491 492 493 494 496 497 498 499 500 501
       502 503 504 505 506 507 508 512 513 514 515 516 517 518 519 520 523 524
       525 526 527 530 531 532 533 534 538 539 541 542 545 546 547 548 549 550
       552 553 554 555 557 560 561 562 563 564 565 566 567]

Test: [ 0   3   9   11  23  28  32  36  41  42  43  47  48  50  53  57  58  62
        69  70  72  77  80  82  84  86  87  91  94  95  98  99  115 119 123 125
       128 130 131 143 147 148 151 163 169 174 177 178 180 182 183 184 187 192
       193 197 201 203 207 209 222 226 227 244 256 257 258 265 266 270 273 275
       277 279 280 286 288 291 292 294 304 305 307 314 321 324 335 341 349 359
       360 368 369 370 371 373 377 383 387 388 394 396 397 398 405 411 418 419
       423 430 431 442 446 448 451 459 461 472 476 480 485 486 488 495 509 510
       511 521 522 528 529 535 536 537 540 543 544 551 556 558 559 568]

```

In []:

```
#Output the accuracy
results = cross_val_score(svm_model, x, y, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.94405594 0.97887324 0.92253521 0.95070423]

In []:

```
#Printing the mean and std across all folds
print("Accuracy: %.3f%% (%.3f%%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 94.904% (2.013%)

5.4 Gaussian Naive Bayes

In []:

```
#Gaussian Naive Bayes (GaussianNB)
GNB = GaussianNB()

#Fit the model
GNB.fit(x_train, y_train)
```

Out[]: GaussianNB(priors=None, var_smoothing=1e-09)

In []:

```
#Model score in training
```

```
GNB.score(x_train, y_train)
```

```
Out[ ]: 0.8928571428571429
```

5.4.1 Making Predictions

```
In [ ]:
```

```
#Make Predictions (assign class labels)
test_pred = GNB.predict(x_test)

#Show inputs and predicted outputs
for i in range(len(x_test)):
    #print("X=%s, Class Predicted = %s" % (x_test[i], y_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, x_test[i], test_pred[i]))
```

X0 = [1.152e+01 1.875e+01 7.334e+01 4.090e+02 9.524e-02 5.473e-02 3.036e-02
2.278e-02 1.920e-01 5.907e-02 3.249e-01 9.591e-01 2.183e+00 2.347e+01
8.328e-03 8.722e-03 1.349e-02 8.670e-03 3.218e-02 2.386e-03 1.284e+01
2.247e+01 8.181e+01 5.062e+02 1.249e-01 8.720e-02 9.076e-02 6.316e-02
3.306e-01 7.036e-02], Class Predicted = 1
X1 = [1.602e+01 2.324e+01 1.027e+02 7.978e+02 8.206e-02 6.669e-02 3.299e-02
3.323e-02 1.528e-01 5.697e-02 3.795e-01 1.187e+00 2.466e+00 4.051e+01
4.029e-03 9.269e-03 1.101e-02 7.591e-03 1.460e-02 3.042e-03 1.919e+01
3.388e+01 1.238e+02 1.150e+03 1.181e-01 1.551e-01 1.459e-01 9.975e-02
2.948e-01 8.452e-02], Class Predicted = 1
X2 = [1.730e+01 1.708e+01 1.130e+02 9.282e+02 1.008e-01 1.041e-01 1.266e-01
8.353e-02 1.813e-01 5.613e-02 3.093e-01 8.568e-01 2.193e+00 3.363e+01
4.757e-03 1.503e-02 2.332e-02 1.262e-02 1.394e-02 2.362e-03 1.985e+01
2.509e+01 1.309e+02 1.222e+03 1.416e-01 2.405e-01 3.378e-01 1.857e-01
3.138e-01 8.113e-02], Class Predicted = 0
X3 = [1.486e+01 1.694e+01 9.489e+01 6.737e+02 8.924e-02 7.074e-02 3.346e-02
2.877e-02 1.573e-01 5.703e-02 3.028e-01 6.683e-01 1.612e+00 2.392e+01
5.756e-03 1.665e-02 1.461e-02 8.281e-03 1.551e-02 2.168e-03 1.631e+01
2.054e+01 1.023e+02 7.775e+02 1.218e-01 1.550e-01 1.220e-01 7.971e-02
2.525e-01 6.827e-02], Class Predicted = 1
X4 = [7.760e+00 2.454e+01 4.792e+01 1.810e+02 5.263e-02 4.362e-02 0.000e+00
0.000e+00 1.587e-01 5.884e-02 3.857e-01 1.428e+00 2.548e+00 1.915e+01
7.189e-03 4.660e-03 0.000e+00 0.000e+00 2.676e-02 2.783e-03 9.456e+00
3.037e+01 5.916e+01 2.686e+02 8.996e-02 6.444e-02 0.000e+00 0.000e+00
2.871e-01 7.039e-02], Class Predicted = 1
X5 = [1.356e+01 1.390e+01 8.859e+01 5.613e+02 1.051e-01 1.192e-01 7.860e-02
4.451e-02 1.962e-01 6.303e-02 2.569e-01 4.981e-01 2.011e+00 2.103e+01
5.851e-03 2.314e-02 2.544e-02 8.360e-03 1.842e-02 2.918e-03 1.498e+01
1.713e+01 1.011e+02 6.866e+02 1.376e-01 2.698e-01 2.577e-01 9.090e-02
3.065e-01 8.177e-02], Class Predicted = 1
X6 = [2.009e+01 2.386e+01 1.347e+02 1.247e+03 1.080e-01 1.838e-01 2.283e-01
1.280e-01 2.249e-01 7.469e-02 1.072e+00 1.743e+00 7.804e+00 1.308e+02
7.964e-03 4.732e-02 7.649e-02 1.936e-02 2.736e-02 5.928e-03 2.368e+01
2.943e+01 1.588e+02 1.696e+03 1.347e-01 3.391e-01 4.932e-01 1.923e-01
3.294e-01 9.469e-02], Class Predicted = 0
X7 = [2.425e+01 2.020e+01 1.662e+02 1.761e+03 1.447e-01 2.867e-01 4.268e-01
2.012e-01 2.655e-01 6.877e-02 1.509e+00 3.120e+00 9.807e+00 2.330e+02
2.333e-02 9.806e-02 1.278e-01 1.822e-02 4.547e-02 9.875e-03 2.602e+01
2.399e+01 1.809e+02 2.073e+03 1.696e-01 4.244e-01 5.803e-01 2.248e-01
3.222e-01 8.009e-02], Class Predicted = 0
X8 = [1.287e+01 1.954e+01 8.267e+01 5.092e+02 9.136e-02 7.883e-02 1.797e-02
2.090e-02 1.861e-01 6.347e-02 3.665e-01 7.693e-01 2.597e+00 2.650e+01
5.910e-03 1.362e-02 7.066e-03 6.502e-03 2.223e-02 2.378e-03 1.445e+01
2.438e+01 9.514e+01 6.269e+02 1.214e-01 1.652e-01 7.127e-02 6.384e-02
3.313e-01 7.735e-02], Class Predicted = 1
X9 = [1.505e+01 1.907e+01 9.726e+01 7.019e+02 9.215e-02 8.597e-02 7.486e-02
4.335e-02 1.561e-01 5.915e-02 3.860e-01 1.198e+00 2.630e+00 3.849e+01
4.952e-03 1.630e-02 2.967e-02 9.423e-03 1.152e-02 1.718e-03 1.758e+01
2.806e+01 1.138e+02 9.670e+02 1.246e-01 2.101e-01 2.866e-01 1.120e-01
2.282e-01 6.954e-02], Class Predicted = 1
X10 = [1.131e+01 1.904e+01 7.180e+01 3.941e+02 8.139e-02 4.701e-02 3.709e-02
2.230e-02 1.516e-01 5.667e-02 2.727e-01 9.429e-01 1.831e+00 1.815e+01

9.282e-03 9.216e-03 2.063e-02 8.965e-03 2.183e-02 2.146e-03 1.233e+01
 2.384e+01 7.800e+01 4.667e+02 1.290e-01 9.148e-02 1.444e-01 6.961e-02
 2.400e-01 6.641e-02], Class Predicted = 1
 X11 = [1.133e+01 1.416e+01 7.179e+01 3.966e+02 9.379e-02 3.872e-02 1.487e-03
 3.333e-03 1.954e-01 5.821e-02 2.375e-01 1.280e+00 1.565e+00 1.709e+01
 8.426e-03 8.998e-03 1.487e-03 3.333e-03 2.358e-02 1.627e-03 1.220e+01
 1.899e+01 7.737e+01 4.580e+02 1.259e-01 7.348e-02 4.955e-03 1.111e-02
 2.758e-01 6.386e-02], Class Predicted = 1
 X12 = [1.959e+01 1.815e+01 1.307e+02 1.214e+03 1.120e-01 1.666e-01 2.508e-01
 1.286e-01 2.027e-01 6.082e-02 7.364e-01 1.048e+00 4.792e+00 9.707e+01
 4.057e-03 2.277e-02 4.029e-02 1.303e-02 1.686e-02 3.318e-03 2.673e+01
 2.639e+01 1.749e+02 2.232e+03 1.438e-01 3.846e-01 6.810e-01 2.247e-01
 3.643e-01 9.223e-02], Class Predicted = 0
 X13 = [1.795e+01 2.001e+01 1.142e+02 9.820e+02 8.402e-02 6.722e-02 7.293e-02
 5.596e-02 2.129e-01 5.025e-02 5.506e-01 1.214e+00 3.357e+00 5.404e+01
 4.024e-03 8.422e-03 2.291e-02 9.863e-03 5.014e-02 1.902e-03 2.058e+01
 2.783e+01 1.292e+02 1.261e+03 1.072e-01 1.202e-01 2.249e-01 1.185e-01
 4.882e-01 6.111e-02], Class Predicted = 0
 X14 = [1.278e+01 1.649e+01 8.137e+01 5.025e+02 9.831e-02 5.234e-02 3.653e-02
 2.864e-02 1.590e-01 5.653e-02 2.368e-01 8.732e-01 1.471e+00 1.833e+01
 7.962e-03 5.612e-03 1.585e-02 8.662e-03 2.254e-02 1.906e-03 1.346e+01
 1.976e+01 8.567e+01 5.549e+02 1.296e-01 7.061e-02 1.039e-01 5.882e-02
 2.383e-01 6.410e-02], Class Predicted = 1
 X15 = [9.295e+00 1.390e+01 5.996e+01 2.578e+02 1.371e-01 1.225e-01 3.332e-02
 2.421e-02 2.197e-01 7.696e-02 3.538e-01 1.130e+00 2.388e+00 1.963e+01
 1.546e-02 2.540e-02 2.197e-02 1.580e-02 3.997e-02 3.901e-03 1.057e+01
 1.784e+01 6.784e+01 3.266e+02 1.850e-01 2.097e-01 9.996e-02 7.262e-02
 3.681e-01 8.982e-02], Class Predicted = 1
 X16 = [1.315e+01 1.534e+01 8.531e+01 5.389e+02 9.384e-02 8.498e-02 9.293e-02
 3.483e-02 1.822e-01 6.207e-02 2.710e-01 7.927e-01 1.819e+00 2.279e+01
 8.584e-03 2.017e-02 3.047e-02 9.536e-03 2.769e-02 3.479e-03 1.477e+01
 2.050e+01 9.767e+01 6.773e+02 1.478e-01 2.256e-01 3.009e-01 9.722e-02
 3.849e-01 8.633e-02], Class Predicted = 1
 X17 = [2.137e+01 1.510e+01 1.413e+02 1.386e+03 1.001e-01 1.515e-01 1.932e-01
 1.255e-01 1.973e-01 6.183e-02 3.414e-01 1.309e+00 2.407e+00 3.906e+01
 4.426e-03 2.675e-02 3.437e-02 1.343e-02 1.675e-02 4.367e-03 2.269e+01
 2.184e+01 1.521e+02 1.535e+03 1.192e-01 2.840e-01 4.024e-01 1.966e-01
 2.730e-01 8.666e-02], Class Predicted = 0
 X18 = [1.189e+01 1.736e+01 7.620e+01 4.356e+02 1.225e-01 7.210e-02 5.929e-02
 7.404e-02 2.015e-01 5.875e-02 6.412e-01 2.293e+00 4.021e+00 4.884e+01
 1.418e-02 1.489e-02 1.267e-02 1.910e-02 2.678e-02 3.002e-03 1.240e+01
 1.899e+01 7.946e+01 4.724e+02 1.359e-01 8.368e-02 7.153e-02 8.946e-02
 2.220e-01 6.033e-02], Class Predicted = 1
 X19 = [1.919e+01 1.594e+01 1.263e+02 1.157e+03 8.694e-02 1.185e-01 1.193e-01
 9.667e-02 1.741e-01 5.176e-02 1.000e+00 6.336e-01 6.971e+00 1.193e+02
 9.406e-03 3.055e-02 4.344e-02 2.794e-02 3.156e-02 3.362e-03 2.203e+01
 1.781e+01 1.466e+02 1.495e+03 1.124e-01 2.016e-01 2.264e-01 1.777e-01
 2.443e-01 6.251e-02], Class Predicted = 0
 X20 = [1.955e+01 2.877e+01 1.336e+02 1.207e+03 9.260e-02 2.063e-01 1.784e-01
 1.144e-01 1.893e-01 6.232e-02 8.426e-01 1.199e+00 7.158e+00 1.064e+02
 6.356e-03 4.765e-02 3.863e-02 1.519e-02 1.936e-02 5.252e-03 2.505e+01
 3.627e+01 1.786e+02 1.926e+03 1.281e-01 5.329e-01 4.251e-01 1.941e-01
 2.818e-01 1.005e-01], Class Predicted = 0
 X21 = [1.218e+01 2.052e+01 7.722e+01 4.587e+02 8.013e-02 4.038e-02 2.383e-02
 1.770e-02 1.739e-01 5.677e-02 1.924e-01 1.571e+00 1.183e+00 1.468e+01
 5.080e-03 6.098e-03 1.069e-02 6.797e-03 1.447e-02 1.532e-03 1.334e+01
 3.284e+01 8.458e+01 5.478e+02 1.123e-01 8.862e-02 1.145e-01 7.431e-02
 2.694e-01 6.878e-02], Class Predicted = 1
 X22 = [2.175e+01 2.099e+01 1.473e+02 1.491e+03 9.401e-02 1.961e-01 2.195e-01
 1.088e-01 1.721e-01 6.194e-02 1.167e+00 1.352e+00 8.867e+00 1.568e+02
 5.687e-03 4.960e-02 6.329e-02 1.561e-02 1.924e-02 4.614e-03 2.819e+01
 2.818e+01 1.959e+02 2.384e+03 1.272e-01 4.725e-01 5.807e-01 1.841e-01
 2.833e-01 8.858e-02], Class Predicted = 0
 X23 = [1.616e+01 2.154e+01 1.062e+02 8.098e+02 1.008e-01 1.284e-01 1.043e-01
 5.613e-02 2.160e-01 5.891e-02 4.332e-01 1.265e+00 2.844e+00 4.368e+01
 4.877e-03 1.952e-02 2.219e-02 9.231e-03 1.535e-02 2.373e-03 1.947e+01
 3.168e+01 1.297e+02 1.175e+03 1.395e-01 3.055e-01 2.992e-01 1.312e-01
 3.480e-01 7.619e-02], Class Predicted = 0
 X24 = [1.247e+01 1.731e+01 8.045e+01 4.801e+02 8.928e-02 7.630e-02 3.609e-02

2.369e-02 1.526e-01 6.046e-02 1.532e-01 7.810e-01 1.253e+00 1.191e+01
 3.796e-03 1.371e-02 1.346e-02 7.096e-03 1.536e-02 1.541e-03 1.406e+01
 2.434e+01 9.282e+01 6.073e+02 1.276e-01 2.506e-01 2.028e-01 1.053e-01
 3.035e-01 7.661e-02], Class Predicted = 1
 X25 = [1.187e+01 2.154e+01 7.683e+01 4.320e+02 6.613e-02 1.064e-01 8.777e-02
 2.386e-02 1.349e-01 6.612e-02 2.560e-01 1.554e+00 1.955e+00 2.024e+01
 6.854e-03 6.063e-02 6.663e-02 1.553e-02 2.354e-02 8.925e-03 1.279e+01
 2.818e+01 8.351e+01 5.072e+02 9.457e-02 3.399e-01 3.218e-01 8.750e-02
 2.305e-01 9.952e-02], Class Predicted = 1
 X26 = [1.275e+01 1.670e+01 8.251e+01 4.938e+02 1.125e-01 1.117e-01 3.880e-02
 2.995e-02 2.120e-01 6.623e-02 3.834e-01 1.003e+00 2.495e+00 2.862e+01
 7.509e-03 1.561e-02 1.977e-02 9.199e-03 1.805e-02 3.629e-03 1.445e+01
 2.174e+01 9.363e+01 6.241e+02 1.475e-01 1.979e-01 1.423e-01 8.045e-02
 3.071e-01 8.557e-02], Class Predicted = 1
 X27 = [1.441e+01 1.973e+01 9.603e+01 6.510e+02 8.757e-02 1.676e-01 1.362e-01
 6.602e-02 1.714e-01 7.192e-02 8.811e-01 1.770e+00 4.360e+00 7.711e+01
 7.762e-03 1.064e-01 9.960e-02 2.771e-02 4.077e-02 2.286e-02 1.577e+01
 2.213e+01 1.017e+02 7.673e+02 9.983e-02 2.472e-01 2.220e-01 1.021e-01
 2.272e-01 8.799e-02], Class Predicted = 0
 X28 = [1.801e+01 2.056e+01 1.184e+02 1.007e+03 1.001e-01 1.289e-01 1.170e-01
 7.762e-02 2.116e-01 6.077e-02 7.548e-01 1.288e+00 5.353e+00 8.974e+01
 7.997e-03 2.700e-02 3.737e-02 1.648e-02 2.897e-02 3.996e-03 2.153e+01
 2.606e+01 1.434e+02 1.426e+03 1.309e-01 2.327e-01 2.544e-01 1.489e-01
 3.251e-01 7.625e-02], Class Predicted = 0
 X29 = [1.154e+01 1.072e+01 7.373e+01 4.091e+02 8.597e-02 5.969e-02 1.367e-02
 8.907e-03 1.833e-01 6.100e-02 1.312e-01 3.602e-01 1.107e+00 9.438e+00
 4.124e-03 1.340e-02 1.003e-02 4.667e-03 2.032e-02 1.952e-03 1.234e+01
 1.287e+01 8.123e+01 4.678e+02 1.092e-01 1.626e-01 8.324e-02 4.715e-02
 3.390e-01 7.434e-02], Class Predicted = 1
 X30 = [1.115e+01 1.308e+01 7.087e+01 3.819e+02 9.754e-02 5.113e-02 1.982e-02
 1.786e-02 1.830e-01 6.105e-02 2.251e-01 7.815e-01 1.429e+00 1.548e+01
 9.019e-03 8.985e-03 1.196e-02 8.232e-03 2.388e-02 1.619e-03 1.199e+01
 1.630e+01 7.625e+01 4.408e+02 1.341e-01 8.971e-02 7.116e-02 5.506e-02
 2.859e-01 6.772e-02], Class Predicted = 1
 X31 = [2.051e+01 2.781e+01 1.344e+02 1.319e+03 9.159e-02 1.074e-01 1.554e-01
 8.340e-02 1.448e-01 5.592e-02 5.240e-01 1.189e+00 3.767e+00 7.001e+01
 5.020e-03 2.062e-02 3.457e-02 1.091e-02 1.298e-02 2.887e-03 2.447e+01
 3.738e+01 1.627e+02 1.872e+03 1.223e-01 2.761e-01 4.146e-01 1.563e-01
 2.437e-01 8.328e-02], Class Predicted = 0
 X32 = [1.057e+01 2.022e+01 7.015e+01 3.383e+02 9.073e-02 1.660e-01 2.280e-01
 5.941e-02 2.188e-01 8.450e-02 1.115e-01 1.231e+00 2.363e+00 7.228e+00
 8.499e-03 7.643e-02 1.535e-01 2.919e-02 1.617e-02 1.220e-02 1.085e+01
 2.282e+01 7.651e+01 3.519e+02 1.143e-01 3.619e-01 6.030e-01 1.465e-01
 2.597e-01 1.200e-01], Class Predicted = 0
 X33 = [1.460e+01 2.329e+01 9.397e+01 6.647e+02 8.682e-02 6.636e-02 8.390e-02
 5.271e-02 1.627e-01 5.416e-02 4.157e-01 1.627e+00 2.914e+00 3.301e+01
 8.312e-03 1.742e-02 3.389e-02 1.576e-02 1.740e-02 2.871e-03 1.579e+01
 3.171e+01 1.022e+02 7.582e+02 1.312e-01 1.581e-01 2.675e-01 1.359e-01
 2.477e-01 6.836e-02], Class Predicted = 1
 X34 = [1.048e+01 1.498e+01 6.749e+01 3.336e+02 9.816e-02 1.013e-01 6.335e-02
 2.218e-02 1.925e-01 6.915e-02 3.276e-01 1.127e+00 2.564e+00 2.077e+01
 7.364e-03 3.867e-02 5.263e-02 1.264e-02 2.161e-02 4.830e-03 1.213e+01
 2.157e+01 8.141e+01 4.404e+02 1.327e-01 2.996e-01 2.939e-01 9.310e-02
 3.020e-01 9.646e-02], Class Predicted = 1
 X35 = [1.464e+01 1.685e+01 9.421e+01 6.660e+02 8.641e-02 6.698e-02 5.192e-02
 2.791e-02 1.409e-01 5.355e-02 2.204e-01 1.006e+00 1.471e+00 1.998e+01
 3.535e-03 1.393e-02 1.800e-02 6.144e-03 1.254e-02 1.219e-03 1.646e+01
 2.544e+01 1.060e+02 8.310e+02 1.142e-01 2.070e-01 2.437e-01 7.828e-02
 2.455e-01 6.596e-02], Class Predicted = 1
 X36 = [1.267e+01 1.730e+01 8.125e+01 4.899e+02 1.028e-01 7.664e-02 3.193e-02
 2.107e-02 1.707e-01 5.984e-02 2.100e-01 9.505e-01 1.566e+00 1.761e+01
 6.809e-03 9.514e-03 1.329e-02 6.474e-03 2.057e-02 1.784e-03 1.371e+01
 2.110e+01 8.870e+01 5.744e+02 1.384e-01 1.212e-01 1.020e-01 5.602e-02
 2.688e-01 6.888e-02], Class Predicted = 1
 X37 = [1.496e+01 1.910e+01 9.703e+01 6.873e+02 8.992e-02 9.823e-02 5.940e-02
 4.819e-02 1.879e-01 5.852e-02 2.877e-01 9.480e-01 2.171e+00 2.487e+01
 5.332e-03 2.115e-02 1.536e-02 1.187e-02 1.522e-02 2.815e-03 1.625e+01
 2.619e+01 1.091e+02 8.098e+02 1.313e-01 3.030e-01 1.804e-01 1.489e-01
 2.962e-01 8.472e-02], Class Predicted = 1

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X38 = [2.110e+01 2.052e+01 1.381e+02 1.384e+03 9.684e-02 1.175e-01 1.572e-01
1.155e-01 1.554e-01 5.661e-02 6.643e-01 1.361e+00 4.542e+00 8.189e+01
5.467e-03 2.075e-02 3.185e-02 1.466e-02 1.029e-02 2.205e-03 2.568e+01
3.207e+01 1.682e+02 2.022e+03 1.368e-01 3.101e-01 4.399e-01 2.280e-01
2.268e-01 7.425e-02], Class Predicted = 0
X39 = [1.902e+01 2.459e+01 1.220e+02 1.076e+03 9.029e-02 1.206e-01 1.468e-01
8.271e-02 1.953e-01 5.629e-02 5.495e-01 6.636e-01 3.055e+00 5.765e+01
3.872e-03 1.842e-02 3.710e-02 1.200e-02 1.964e-02 3.337e-03 2.456e+01
3.041e+01 1.529e+02 1.623e+03 1.249e-01 3.206e-01 5.755e-01 1.956e-01
3.956e-01 9.288e-02], Class Predicted = 0
X40 = [1.180e+01 1.658e+01 7.899e+01 4.320e+02 1.091e-01 1.700e-01 1.659e-01
7.415e-02 2.678e-01 7.371e-02 3.197e-01 1.426e+00 2.281e+00 2.472e+01
5.427e-03 3.633e-02 4.649e-02 1.843e-02 5.628e-02 4.635e-03 1.374e+01
2.638e+01 9.193e+01 5.917e+02 1.385e-01 4.092e-01 4.504e-01 1.865e-01
5.774e-01 1.030e-01], Class Predicted = 0
X41 = [1.426e+01 1.965e+01 9.783e+01 6.299e+02 7.837e-02 2.233e-01 3.003e-01
7.798e-02 1.704e-01 7.769e-02 3.628e-01 1.490e+00 3.399e+00 2.925e+01
5.298e-03 7.446e-02 1.435e-01 2.292e-02 2.566e-02 1.298e-02 1.530e+01
2.373e+01 1.070e+02 7.090e+02 8.949e-02 4.193e-01 6.783e-01 1.505e-01
2.398e-01 1.082e-01], Class Predicted = 0
X42 = [1.760e+01 2.333e+01 1.190e+02 9.805e+02 9.289e-02 2.004e-01 2.136e-01
1.002e-01 1.696e-01 7.369e-02 9.289e-01 1.465e+00 5.801e+00 1.049e+02
6.766e-03 7.025e-02 6.591e-02 2.311e-02 1.673e-02 1.130e-02 2.157e+01
2.887e+01 1.436e+02 1.437e+03 1.207e-01 4.785e-01 5.165e-01 1.996e-01
2.301e-01 1.224e-01], Class Predicted = 0
X43 = [8.618e+00 1.179e+01 5.434e+01 2.245e+02 9.752e-02 5.272e-02 2.061e-02
7.799e-03 1.683e-01 7.187e-02 1.559e-01 5.796e-01 1.046e+00 8.322e+00
1.011e-02 1.055e-02 1.981e-02 5.742e-03 2.090e-02 2.788e-03 9.507e+00
1.540e+01 5.990e+01 2.749e+02 1.733e-01 1.239e-01 1.168e-01 4.419e-02
3.220e-01 9.026e-02], Class Predicted = 1
X44 = [1.419e+01 2.381e+01 9.287e+01 6.107e+02 9.463e-02 1.306e-01 1.115e-01
6.462e-02 2.235e-01 6.433e-02 4.207e-01 1.845e+00 3.534e+00 3.100e+01
1.088e-02 3.710e-02 3.688e-02 1.627e-02 4.499e-02 4.768e-03 1.686e+01
3.485e+01 1.150e+02 8.113e+02 1.559e-01 4.059e-01 3.744e-01 1.772e-01
4.724e-01 1.026e-01], Class Predicted = 0
X45 = [2.016e+01 1.966e+01 1.311e+02 1.274e+03 8.020e-02 8.564e-02 1.155e-01
7.726e-02 1.928e-01 5.096e-02 5.925e-01 6.863e-01 3.868e+00 7.485e+01
4.536e-03 1.376e-02 2.645e-02 1.247e-02 2.193e-02 1.589e-03 2.306e+01
2.303e+01 1.502e+02 1.657e+03 1.054e-01 1.537e-01 2.606e-01 1.425e-01
3.055e-01 5.933e-02], Class Predicted = 0
X46 = [1.216e+01 1.803e+01 7.829e+01 4.553e+02 9.087e-02 7.838e-02 2.916e-02
1.527e-02 1.464e-01 6.284e-02 2.194e-01 1.190e+00 1.678e+00 1.626e+01
4.911e-03 1.666e-02 1.397e-02 5.161e-03 1.454e-02 1.858e-03 1.334e+01
2.787e+01 8.883e+01 5.474e+02 1.208e-01 2.279e-01 1.620e-01 5.690e-02
2.406e-01 7.729e-02], Class Predicted = 1
X47 = [1.283e+01 2.233e+01 8.526e+01 5.032e+02 1.088e-01 1.799e-01 1.695e-01
6.861e-02 2.123e-01 7.254e-02 3.061e-01 1.069e+00 2.257e+00 2.513e+01
6.983e-03 3.858e-02 4.683e-02 1.499e-02 1.680e-02 5.617e-03 1.520e+01
3.015e+01 1.053e+02 7.060e+02 1.777e-01 5.343e-01 6.282e-01 1.977e-01
3.407e-01 1.243e-01], Class Predicted = 0
X48 = [1.570e+01 2.031e+01 1.012e+02 7.666e+02 9.597e-02 8.799e-02 6.593e-02
5.189e-02 1.618e-01 5.549e-02 3.699e-01 1.150e+00 2.406e+00 4.098e+01
4.626e-03 2.263e-02 1.954e-02 9.767e-03 1.547e-02 2.430e-03 2.011e+01
3.282e+01 1.293e+02 1.269e+03 1.414e-01 3.547e-01 2.902e-01 1.541e-01
3.437e-01 8.631e-02], Class Predicted = 0
X49 = [1.969e+01 2.125e+01 1.300e+02 1.203e+03 1.096e-01 1.599e-01 1.974e-01
1.279e-01 2.069e-01 5.999e-02 7.456e-01 7.869e-01 4.585e+00 9.403e+01
6.150e-03 4.006e-02 3.832e-02 2.058e-02 2.250e-02 4.571e-03 2.357e+01
2.553e+01 1.525e+02 1.709e+03 1.444e-01 4.245e-01 4.504e-01 2.430e-01
3.613e-01 8.758e-02], Class Predicted = 0
X50 = [2.161e+01 2.228e+01 1.444e+02 1.407e+03 1.167e-01 2.087e-01 2.810e-01
1.562e-01 2.162e-01 6.606e-02 6.242e-01 9.209e-01 4.158e+00 8.099e+01
5.215e-03 3.726e-02 4.718e-02 1.288e-02 2.045e-02 4.028e-03 2.623e+01
2.874e+01 1.720e+02 2.081e+03 1.502e-01 5.717e-01 7.053e-01 2.422e-01
3.828e-01 1.007e-01], Class Predicted = 0
X51 = [1.286e+01 1.800e+01 8.319e+01 5.063e+02 9.934e-02 9.546e-02 3.889e-02
2.315e-02 1.718e-01 5.997e-02 2.655e-01 1.095e+00 1.778e+00 2.035e+01
5.293e-03 1.661e-02 2.071e-02 8.179e-03 1.748e-02 2.848e-03 1.424e+01
2.482e+01 9.188e+01 6.221e+02 1.289e-01 2.141e-01 1.731e-01 7.926e-02

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2.779e-01 7.918e-02], Class Predicted = 1
 X52 = [1.940e+01 1.818e+01 1.272e+02 1.145e+03 1.037e-01 1.442e-01 1.626e-01
 9.464e-02 1.893e-01 5.892e-02 4.709e-01 9.951e-01 2.903e+00 5.316e+01
 5.654e-03 2.199e-02 3.059e-02 1.499e-02 1.623e-02 1.965e-03 2.379e+01
 2.865e+01 1.524e+02 1.628e+03 1.518e-01 3.749e-01 4.316e-01 2.252e-01
 3.590e-01 7.787e-02], Class Predicted = 0
 X53 = [2.044e+01 2.178e+01 1.338e+02 1.293e+03 9.150e-02 1.131e-01 9.799e-02
 7.785e-02 1.618e-01 5.557e-02 5.781e-01 9.168e-01 4.218e+00 7.244e+01
 6.208e-03 1.906e-02 2.375e-02 1.461e-02 1.445e-02 1.906e-03 2.431e+01
 2.637e+01 1.612e+02 1.780e+03 1.327e-01 2.376e-01 2.702e-01 1.765e-01
 2.609e-01 6.735e-02], Class Predicted = 0
 X54 = [1.454e+01 2.754e+01 9.673e+01 6.588e+02 1.139e-01 1.595e-01 1.639e-01
 7.364e-02 2.303e-01 7.077e-02 3.700e-01 1.033e+00 2.879e+00 3.255e+01
 5.607e-03 4.240e-02 4.741e-02 1.090e-02 1.857e-02 5.466e-03 1.746e+01
 3.713e+01 1.241e+02 9.432e+02 1.678e-01 6.577e-01 7.026e-01 1.712e-01
 4.218e-01 1.341e-01], Class Predicted = 0
 X55 = [1.458e+01 1.366e+01 9.429e+01 6.588e+02 9.832e-02 8.918e-02 8.222e-02
 4.349e-02 1.739e-01 5.640e-02 4.165e-01 6.237e-01 2.561e+00 3.711e+01
 4.953e-03 1.812e-02 3.035e-02 8.648e-03 1.539e-02 2.281e-03 1.676e+01
 1.724e+01 1.085e+02 8.620e+02 1.223e-01 1.928e-01 2.492e-01 9.186e-02
 2.626e-01 7.048e-02], Class Predicted = 1
 X56 = [1.799e+01 1.038e+01 1.228e+02 1.001e+03 1.184e-01 2.776e-01 3.001e-01
 1.471e-01 2.419e-01 7.871e-02 1.095e+00 9.053e-01 8.589e+00 1.534e+02
 6.399e-03 4.904e-02 5.373e-02 1.587e-02 3.003e-02 6.193e-03 2.538e+01
 1.733e+01 1.846e+02 2.019e+03 1.622e-01 6.656e-01 7.119e-01 2.654e-01
 4.601e-01 1.189e-01], Class Predicted = 0
 X57 = [1.243e+01 1.700e+01 7.860e+01 4.773e+02 7.557e-02 3.454e-02 1.342e-02
 1.699e-02 1.472e-01 5.561e-02 3.778e-01 2.200e+00 2.487e+00 3.116e+01
 7.357e-03 1.079e-02 9.959e-03 1.120e-02 3.433e-02 2.961e-03 1.290e+01
 2.021e+01 8.176e+01 5.159e+02 8.409e-02 4.712e-02 2.237e-02 2.832e-02
 1.901e-01 5.932e-02], Class Predicted = 1
 X58 = [1.429e+01 1.682e+01 9.030e+01 6.326e+02 6.429e-02 2.675e-02 7.250e-03
 6.250e-03 1.508e-01 5.376e-02 1.302e-01 7.198e-01 8.439e-01 1.077e+01
 3.492e-03 3.710e-03 4.826e-03 3.608e-03 1.536e-02 1.381e-03 1.491e+01
 2.065e+01 9.444e+01 6.846e+02 8.567e-02 5.036e-02 3.866e-02 3.333e-02
 2.458e-01 6.120e-02], Class Predicted = 1
 X59 = [1.607e+01 1.965e+01 1.041e+02 8.177e+02 9.168e-02 8.424e-02 9.769e-02
 6.638e-02 1.798e-01 5.391e-02 7.474e-01 1.016e+00 5.029e+00 7.925e+01
 1.082e-02 2.203e-02 3.500e-02 1.809e-02 1.550e-02 1.948e-03 1.977e+01
 2.456e+01 1.288e+02 1.223e+03 1.500e-01 2.045e-01 2.829e-01 1.520e-01
 2.650e-01 6.387e-02], Class Predicted = 0
 X60 = [1.289e+01 1.411e+01 8.495e+01 5.122e+02 8.760e-02 1.346e-01 1.374e-01
 3.980e-02 1.596e-01 6.409e-02 2.025e-01 4.402e-01 2.393e+00 1.635e+01
 5.501e-03 5.592e-02 8.158e-02 1.370e-02 1.266e-02 7.555e-03 1.439e+01
 1.770e+01 1.050e+02 6.391e+02 1.254e-01 5.849e-01 7.727e-01 1.561e-01
 2.639e-01 1.178e-01], Class Predicted = 0
 X61 = [1.272e+01 1.767e+01 8.098e+01 5.013e+02 7.896e-02 4.522e-02 1.402e-02
 1.835e-02 1.459e-01 5.544e-02 2.954e-01 8.836e-01 2.109e+00 2.324e+01
 7.337e-03 1.174e-02 5.383e-03 5.623e-03 1.940e-02 1.180e-03 1.382e+01
 2.096e+01 8.887e+01 5.868e+02 1.068e-01 9.605e-02 3.469e-02 3.612e-02
 2.165e-01 6.025e-02], Class Predicted = 1
 X62 = [1.585e+01 2.395e+01 1.037e+02 7.827e+02 8.401e-02 1.002e-01 9.938e-02
 5.364e-02 1.847e-01 5.338e-02 4.033e-01 1.078e+00 2.903e+00 3.658e+01
 9.769e-03 3.126e-02 5.051e-02 1.992e-02 2.981e-02 3.002e-03 1.684e+01
 2.766e+01 1.120e+02 8.765e+02 1.131e-01 1.924e-01 2.322e-01 1.119e-01
 2.809e-01 6.287e-02], Class Predicted = 1
 X63 = [2.116e+01 2.304e+01 1.372e+02 1.404e+03 9.428e-02 1.022e-01 1.097e-01
 8.632e-02 1.769e-01 5.278e-02 6.917e-01 1.127e+00 4.303e+00 9.399e+01
 4.728e-03 1.259e-02 1.715e-02 1.038e-02 1.083e-02 1.987e-03 2.917e+01
 3.559e+01 1.880e+02 2.615e+03 1.401e-01 2.600e-01 3.155e-01 2.009e-01
 2.822e-01 7.526e-02], Class Predicted = 0
 X64 = [1.270e+01 1.217e+01 8.088e+01 4.950e+02 8.785e-02 5.794e-02 2.360e-02
 2.402e-02 1.583e-01 6.275e-02 2.253e-01 6.457e-01 1.527e+00 1.737e+01
 6.131e-03 1.263e-02 9.075e-03 8.231e-03 1.713e-02 4.414e-03 1.365e+01
 1.692e+01 8.812e+01 5.669e+02 1.314e-01 1.607e-01 9.385e-02 8.224e-02
 2.775e-01 9.464e-02], Class Predicted = 1
 X65 = [1.223e+01 1.956e+01 7.854e+01 4.610e+02 9.586e-02 8.087e-02 4.187e-02
 4.107e-02 1.979e-01 6.013e-02 3.534e-01 1.326e+00 2.308e+00 2.724e+01
 7.514e-03 1.779e-02 1.401e-02 1.140e-02 1.503e-02 3.338e-03 1.444e+01

2.836e+01 9.215e+01 6.384e+02 1.429e-01 2.042e-01 1.377e-01 1.080e-01
 2.668e-01 8.174e-02], Class Predicted = 1
 X66 = [1.096e+01 1.762e+01 7.079e+01 3.656e+02 9.687e-02 9.752e-02 5.263e-02
 2.788e-02 1.619e-01 6.408e-02 1.507e-01 1.583e+00 1.165e+00 1.009e+01
 9.501e-03 3.378e-02 4.401e-02 1.346e-02 1.322e-02 3.534e-03 1.162e+01
 2.651e+01 7.643e+01 4.075e+02 1.428e-01 2.510e-01 2.123e-01 9.861e-02
 2.289e-01 8.278e-02], Class Predicted = 1
 X67 = [8.950e+00 1.576e+01 5.874e+01 2.452e+02 9.462e-02 1.243e-01 9.263e-02
 2.308e-02 1.305e-01 7.163e-02 3.132e-01 9.789e-01 3.280e+00 1.694e+01
 1.835e-02 6.760e-02 9.263e-02 2.308e-02 2.384e-02 5.601e-03 9.414e+00
 1.707e+01 6.334e+01 2.700e+02 1.179e-01 1.879e-01 1.544e-01 3.846e-02
 1.652e-01 7.722e-02], Class Predicted = 1
 X68 = [1.573e+01 1.128e+01 1.028e+02 7.472e+02 1.043e-01 1.299e-01 1.191e-01
 6.211e-02 1.784e-01 6.259e-02 1.630e-01 3.871e-01 1.143e+00 1.387e+01
 6.034e-03 1.820e-02 3.336e-02 1.067e-02 1.175e-02 2.256e-03 1.701e+01
 1.420e+01 1.125e+02 8.543e+02 1.541e-01 2.979e-01 4.004e-01 1.452e-01
 2.557e-01 8.181e-02], Class Predicted = 1
 X69 = [1.311e+01 2.254e+01 8.702e+01 5.294e+02 1.002e-01 1.483e-01 8.705e-02
 5.102e-02 1.850e-01 7.310e-02 1.931e-01 9.223e-01 1.491e+00 1.509e+01
 5.251e-03 3.041e-02 2.526e-02 8.304e-03 2.514e-02 4.198e-03 1.455e+01
 2.916e+01 9.948e+01 6.393e+02 1.349e-01 4.402e-01 3.162e-01 1.126e-01
 4.128e-01 1.076e-01], Class Predicted = 1
 X70 = [1.361e+01 2.498e+01 8.805e+01 5.827e+02 9.488e-02 8.511e-02 8.625e-02
 4.489e-02 1.609e-01 5.871e-02 4.565e-01 1.290e+00 2.861e+00 4.314e+01
 5.872e-03 1.488e-02 2.647e-02 9.921e-03 1.465e-02 2.355e-03 1.699e+01
 3.527e+01 1.086e+02 9.065e+02 1.265e-01 1.943e-01 3.169e-01 1.184e-01
 2.651e-01 7.397e-02], Class Predicted = 1
 X71 = [1.351e+01 1.889e+01 8.810e+01 5.581e+02 1.059e-01 1.147e-01 8.580e-02
 5.381e-02 1.806e-01 6.079e-02 2.136e-01 1.332e+00 1.513e+00 1.929e+01
 5.442e-03 1.957e-02 3.304e-02 1.367e-02 1.315e-02 2.464e-03 1.480e+01
 2.720e+01 9.733e+01 6.752e+02 1.428e-01 2.570e-01 3.438e-01 1.453e-01
 2.666e-01 7.686e-02], Class Predicted = 1
 X72 = [1.225e+01 2.244e+01 7.818e+01 4.665e+02 8.192e-02 5.200e-02 1.714e-02
 1.261e-02 1.544e-01 5.976e-02 2.239e-01 1.139e+00 1.577e+00 1.804e+01
 5.096e-03 1.205e-02 9.410e-03 4.551e-03 1.608e-02 2.399e-03 1.417e+01
 3.199e+01 9.274e+01 6.229e+02 1.256e-01 1.804e-01 1.230e-01 6.335e-02
 3.100e-01 8.203e-02], Class Predicted = 1
 X73 = [1.674e+01 2.159e+01 1.101e+02 8.695e+02 9.610e-02 1.336e-01 1.348e-01
 6.018e-02 1.896e-01 5.656e-02 4.615e-01 9.197e-01 3.008e+00 4.519e+01
 5.776e-03 2.499e-02 3.695e-02 1.195e-02 2.789e-02 2.665e-03 2.001e+01
 2.902e+01 1.335e+02 1.229e+03 1.563e-01 3.835e-01 5.409e-01 1.813e-01
 4.863e-01 8.633e-02], Class Predicted = 0
 X74 = [1.945e+01 1.933e+01 1.265e+02 1.169e+03 1.035e-01 1.188e-01 1.379e-01
 8.591e-02 1.776e-01 5.647e-02 5.959e-01 6.342e-01 3.797e+00 7.100e+01
 4.649e-03 1.800e-02 2.749e-02 1.267e-02 1.365e-02 2.550e-03 2.570e+01
 2.457e+01 1.631e+02 1.972e+03 1.497e-01 3.161e-01 4.317e-01 1.999e-01
 3.379e-01 8.950e-02], Class Predicted = 0
 X75 = [1.727e+01 2.542e+01 1.124e+02 9.288e+02 8.331e-02 1.109e-01 1.204e-01
 5.736e-02 1.467e-01 5.407e-02 5.100e-01 1.679e+00 3.283e+00 5.838e+01
 8.109e-03 4.308e-02 4.942e-02 1.742e-02 1.594e-02 3.739e-03 2.038e+01
 3.546e+01 1.328e+02 1.284e+03 1.436e-01 4.122e-01 5.036e-01 1.739e-01
 2.500e-01 7.944e-02], Class Predicted = 0
 X76 = [2.064e+01 1.735e+01 1.348e+02 1.335e+03 9.446e-02 1.076e-01 1.527e-01
 8.941e-02 1.571e-01 5.478e-02 6.137e-01 6.575e-01 4.119e+00 7.702e+01
 6.211e-03 1.895e-02 2.681e-02 1.232e-02 1.276e-02 1.711e-03 2.537e+01
 2.317e+01 1.668e+02 1.946e+03 1.562e-01 3.055e-01 4.159e-01 2.112e-01
 2.689e-01 7.055e-02], Class Predicted = 0
 X77 = [8.598e+00 2.098e+01 5.466e+01 2.218e+02 1.243e-01 8.963e-02 3.000e-02
 9.259e-03 1.828e-01 6.757e-02 3.582e-01 2.067e+00 2.493e+00 1.839e+01
 1.193e-02 3.162e-02 3.000e-02 9.259e-03 3.357e-02 3.048e-03 9.565e+00
 2.704e+01 6.206e+01 2.739e+02 1.639e-01 1.698e-01 9.001e-02 2.778e-02
 2.972e-01 7.712e-02], Class Predicted = 1
 X78 = [1.160e+01 2.449e+01 7.423e+01 4.172e+02 7.474e-02 5.688e-02 1.974e-02
 1.313e-02 1.935e-01 5.878e-02 2.512e-01 1.786e+00 1.961e+00 1.821e+01
 6.122e-03 2.337e-02 1.596e-02 6.998e-03 3.194e-02 2.211e-03 1.244e+01
 3.162e+01 8.139e+01 4.765e+02 9.545e-02 1.361e-01 7.239e-02 4.815e-02
 3.244e-01 6.745e-02], Class Predicted = 1
 X79 = [1.218e+01 1.408e+01 7.725e+01 4.614e+02 7.734e-02 3.212e-02 1.123e-02
 5.051e-03 1.673e-01 5.649e-02 2.113e-01 5.996e-01 1.438e+00 1.582e+01

5.343e-03 5.767e-03 1.123e-02 5.051e-03 1.977e-02 9.502e-04 1.285e+01
 1.647e+01 8.160e+01 5.131e+02 1.001e-01 5.332e-02 4.116e-02 1.852e-02
 2.293e-01 6.037e-02], Class Predicted = 1
 X80 = [1.603e+01 1.551e+01 1.058e+02 7.932e+02 9.491e-02 1.371e-01 1.204e-01
 7.041e-02 1.782e-01 5.976e-02 3.371e-01 7.476e-01 2.629e+00 3.327e+01
 5.839e-03 3.245e-02 3.715e-02 1.459e-02 1.467e-02 3.121e-03 1.876e+01
 2.198e+01 1.243e+02 1.070e+03 1.435e-01 4.478e-01 4.956e-01 1.981e-01
 3.019e-01 9.124e-02], Class Predicted = 0
 X81 = [9.787e+00 1.994e+01 6.211e+01 2.945e+02 1.024e-01 5.301e-02 6.829e-03
 7.937e-03 1.350e-01 6.890e-02 3.350e-01 2.043e+00 2.132e+00 2.005e+01
 1.113e-02 1.463e-02 5.308e-03 5.250e-03 1.801e-02 5.667e-03 1.092e+01
 2.629e+01 6.881e+01 3.661e+02 1.316e-01 9.473e-02 2.049e-02 2.381e-02
 1.934e-01 8.988e-02], Class Predicted = 1
 X82 = [1.791e+01 2.102e+01 1.244e+02 9.940e+02 1.230e-01 2.576e-01 3.189e-01
 1.198e-01 2.113e-01 7.115e-02 4.030e-01 7.747e-01 3.123e+00 4.151e+01
 7.159e-03 3.718e-02 6.165e-02 1.051e-02 1.591e-02 5.099e-03 2.080e+01
 2.778e+01 1.496e+02 1.304e+03 1.873e-01 5.917e-01 9.034e-01 1.964e-01
 3.245e-01 1.198e-01], Class Predicted = 0
 X83 = [1.626e+01 2.188e+01 1.075e+02 8.268e+02 1.165e-01 1.283e-01 1.799e-01
 7.981e-02 1.869e-01 6.532e-02 5.706e-01 1.457e+00 2.961e+00 5.772e+01
 1.056e-02 3.756e-02 5.839e-02 1.186e-02 4.022e-02 6.187e-03 1.773e+01
 2.521e+01 1.137e+02 9.752e+02 1.426e-01 2.116e-01 3.344e-01 1.047e-01
 2.736e-01 7.953e-02], Class Predicted = 0
 X84 = [1.450e+01 1.089e+01 9.428e+01 6.407e+02 1.101e-01 1.099e-01 8.842e-02
 5.778e-02 1.856e-01 6.402e-02 2.929e-01 8.570e-01 1.928e+00 2.419e+01
 3.818e-03 1.276e-02 2.882e-02 1.200e-02 1.910e-02 2.808e-03 1.570e+01
 1.598e+01 1.028e+02 7.455e+02 1.313e-01 1.788e-01 2.560e-01 1.221e-01
 2.889e-01 8.006e-02], Class Predicted = 1
 X85 = [1.561e+01 1.938e+01 1.000e+02 7.586e+02 7.840e-02 5.616e-02 4.209e-02
 2.847e-02 1.547e-01 5.443e-02 2.298e-01 9.988e-01 1.534e+00 2.218e+01
 2.826e-03 9.105e-03 1.311e-02 5.174e-03 1.013e-02 1.345e-03 1.791e+01
 3.167e+01 1.159e+02 9.886e+02 1.084e-01 1.807e-01 2.260e-01 8.568e-02
 2.683e-01 6.829e-02], Class Predicted = 1
 X86 = [1.371e+01 2.083e+01 9.020e+01 5.779e+02 1.189e-01 1.645e-01 9.366e-02
 5.985e-02 2.196e-01 7.451e-02 5.835e-01 1.377e+00 3.856e+00 5.096e+01
 8.805e-03 3.029e-02 2.488e-02 1.448e-02 1.486e-02 5.412e-03 1.706e+01
 2.814e+01 1.106e+02 8.970e+02 1.654e-01 3.682e-01 2.678e-01 1.556e-01
 3.196e-01 1.151e-01], Class Predicted = 0
 X87 = [1.222e+01 2.004e+01 7.947e+01 4.531e+02 1.096e-01 1.152e-01 8.175e-02
 2.166e-02 2.124e-01 6.894e-02 1.811e-01 7.959e-01 9.857e-01 1.258e+01
 6.272e-03 2.198e-02 3.966e-02 9.894e-03 1.320e-02 3.813e-03 1.316e+01
 2.417e+01 8.513e+01 5.153e+02 1.402e-01 2.315e-01 3.535e-01 8.088e-02
 2.709e-01 8.839e-02], Class Predicted = 1
 X88 = [1.295e+01 1.602e+01 8.314e+01 5.137e+02 1.005e-01 7.943e-02 6.155e-02
 3.370e-02 1.730e-01 6.470e-02 2.094e-01 7.636e-01 1.231e+00 1.767e+01
 8.725e-03 2.003e-02 2.335e-02 1.132e-02 2.625e-02 4.726e-03 1.374e+01
 1.993e+01 8.881e+01 5.854e+02 1.483e-01 2.068e-01 2.241e-01 1.056e-01
 3.380e-01 9.584e-02], Class Predicted = 1
 X89 = [1.328e+01 1.372e+01 8.579e+01 5.418e+02 8.363e-02 8.575e-02 5.077e-02
 2.864e-02 1.617e-01 5.594e-02 1.833e-01 5.308e-01 1.592e+00 1.526e+01
 4.271e-03 2.073e-02 2.828e-02 8.468e-03 1.461e-02 2.613e-03 1.424e+01
 1.737e+01 9.659e+01 6.237e+02 1.166e-01 2.685e-01 2.866e-01 9.173e-02
 2.736e-01 7.320e-02], Class Predicted = 1
 X90 = [1.134e+01 1.861e+01 7.276e+01 3.912e+02 1.049e-01 8.499e-02 4.302e-02
 2.594e-02 1.927e-01 6.211e-02 2.430e-01 1.010e+00 1.491e+00 1.819e+01
 8.577e-03 1.641e-02 2.099e-02 1.107e-02 2.434e-02 1.217e-03 1.247e+01
 2.303e+01 7.915e+01 4.786e+02 1.483e-01 1.574e-01 1.624e-01 8.542e-02
 3.060e-01 6.783e-02], Class Predicted = 1
 X91 = [9.405e+00 2.170e+01 5.960e+01 2.712e+02 1.044e-01 6.159e-02 2.047e-02
 1.257e-02 2.025e-01 6.601e-02 4.302e-01 2.878e+00 2.759e+00 2.517e+01
 1.474e-02 1.674e-02 1.367e-02 8.674e-03 3.044e-02 4.590e-03 1.085e+01
 3.124e+01 6.873e+01 3.594e+02 1.526e-01 1.193e-01 6.141e-02 3.770e-02
 2.872e-01 8.304e-02], Class Predicted = 1
 X92 = [9.029e+00 1.733e+01 5.879e+01 2.505e+02 1.066e-01 1.413e-01 3.130e-01
 4.375e-02 2.111e-01 8.046e-02 3.274e-01 1.194e+00 1.885e+00 1.767e+01
 9.549e-03 8.606e-02 3.038e-01 3.322e-02 4.197e-02 9.559e-03 1.031e+01
 2.265e+01 6.550e+01 3.247e+02 1.482e-01 4.365e-01 1.252e+00 1.750e-01
 4.228e-01 1.175e-01], Class Predicted = 0
 X93 = [1.368e+01 1.633e+01 8.776e+01 5.755e+02 9.277e-02 7.255e-02 1.752e-02

1.880e-02 1.631e-01 6.155e-02 2.047e-01 4.801e-01 1.373e+00 1.725e+01
 3.828e-03 7.228e-03 7.078e-03 5.077e-03 1.054e-02 1.697e-03 1.585e+01
 2.020e+01 1.016e+02 7.734e+02 1.264e-01 1.564e-01 1.206e-01 8.704e-02
 2.806e-01 7.782e-02], Class Predicted = 1
 X94 = [1.921e+01 1.857e+01 1.255e+02 1.152e+03 1.053e-01 1.267e-01 1.323e-01
 8.994e-02 1.917e-01 5.961e-02 7.275e-01 1.193e+00 4.837e+00 1.025e+02
 6.458e-03 2.306e-02 2.945e-02 1.538e-02 1.852e-02 2.608e-03 2.614e+01
 2.814e+01 1.701e+02 2.145e+03 1.624e-01 3.511e-01 3.879e-01 2.091e-01
 3.537e-01 8.294e-02], Class Predicted = 0
 X95 = [1.230e+01 1.590e+01 7.883e+01 4.637e+02 8.080e-02 7.253e-02 3.844e-02
 1.654e-02 1.667e-01 5.474e-02 2.382e-01 8.355e-01 1.687e+00 1.832e+01
 5.996e-03 2.212e-02 2.117e-02 6.433e-03 2.025e-02 1.725e-03 1.335e+01
 1.959e+01 8.665e+01 5.467e+02 1.096e-01 1.650e-01 1.423e-01 4.815e-02
 2.482e-01 6.306e-02], Class Predicted = 1
 X96 = [9.173e+00 1.386e+01 5.920e+01 2.609e+02 7.721e-02 8.751e-02 5.988e-02
 2.180e-02 2.341e-01 6.963e-02 4.098e-01 2.265e+00 2.608e+00 2.352e+01
 8.738e-03 3.938e-02 4.312e-02 1.560e-02 4.192e-02 5.822e-03 1.001e+01
 1.923e+01 6.559e+01 3.101e+02 9.836e-02 1.678e-01 1.397e-01 5.087e-02
 3.282e-01 8.490e-02], Class Predicted = 1
 X97 = [1.122e+01 3.381e+01 7.079e+01 3.868e+02 7.780e-02 3.574e-02 4.967e-03
 6.434e-03 1.845e-01 5.828e-02 2.239e-01 1.647e+00 1.489e+00 1.546e+01
 4.359e-03 6.813e-03 3.223e-03 3.419e-03 1.916e-02 2.534e-03 1.236e+01
 4.178e+01 7.844e+01 4.709e+02 9.994e-02 6.885e-02 2.318e-02 3.002e-02
 2.911e-01 7.307e-02], Class Predicted = 1
 X98 = [8.571e+00 1.310e+01 5.453e+01 2.213e+02 1.036e-01 7.632e-02 2.565e-02
 1.510e-02 1.678e-01 7.126e-02 1.267e-01 6.793e-01 1.069e+00 7.254e+00
 7.897e-03 1.762e-02 1.801e-02 7.320e-03 1.592e-02 3.925e-03 9.473e+00
 1.845e+01 6.330e+01 2.756e+02 1.641e-01 2.235e-01 1.754e-01 8.512e-02
 2.983e-01 1.049e-01], Class Predicted = 1
 X99 = [1.303e+01 1.842e+01 8.261e+01 5.238e+02 8.983e-02 3.766e-02 2.562e-02
 2.923e-02 1.467e-01 5.863e-02 1.839e-01 2.342e+00 1.170e+00 1.416e+01
 4.352e-03 4.899e-03 1.343e-02 1.164e-02 2.671e-02 1.777e-03 1.330e+01
 2.281e+01 8.446e+01 5.459e+02 9.701e-02 4.619e-02 4.833e-02 5.013e-02
 1.987e-01 6.169e-02], Class Predicted = 1
 X100 = [1.708e+01 2.715e+01 1.112e+02 9.309e+02 9.898e-02 1.110e-01 1.007e-01
 6.431e-02 1.793e-01 6.281e-02 9.291e-01 1.152e+00 6.051e+00 1.152e+02
 8.740e-03 2.219e-02 2.721e-02 1.458e-02 2.045e-02 4.417e-03 2.296e+01
 3.449e+01 1.521e+02 1.648e+03 1.600e-01 2.444e-01 2.639e-01 1.555e-01
 3.010e-01 9.060e-02], Class Predicted = 0
 X101 = [1.276e+01 1.337e+01 8.229e+01 5.041e+02 8.794e-02 7.948e-02 4.052e-02
 2.548e-02 1.601e-01 6.140e-02 3.265e-01 6.594e-01 2.346e+00 2.518e+01
 6.494e-03 2.768e-02 3.137e-02 1.069e-02 1.731e-02 4.392e-03 1.419e+01
 1.640e+01 9.204e+01 6.188e+02 1.194e-01 2.208e-01 1.769e-01 8.411e-02
 2.564e-01 8.253e-02], Class Predicted = 1
 X102 = [1.218e+01 1.784e+01 7.779e+01 4.511e+02 1.045e-01 7.057e-02 2.490e-02
 2.941e-02 1.900e-01 6.635e-02 3.661e-01 1.511e+00 2.410e+00 2.444e+01
 5.433e-03 1.179e-02 1.131e-02 1.519e-02 2.220e-02 3.408e-03 1.283e+01
 2.092e+01 8.214e+01 4.952e+02 1.140e-01 9.358e-02 4.980e-02 5.882e-02
 2.227e-01 7.376e-02], Class Predicted = 1
 X103 = [1.080e+01 2.198e+01 6.879e+01 3.599e+02 8.801e-02 5.743e-02 3.614e-02
 1.404e-02 2.016e-01 5.977e-02 3.077e-01 1.621e+00 2.240e+00 2.020e+01
 6.543e-03 2.148e-02 2.991e-02 1.045e-02 1.844e-02 2.690e-03 1.276e+01
 3.204e+01 8.369e+01 4.895e+02 1.303e-01 1.696e-01 1.927e-01 7.485e-02
 2.965e-01 7.662e-02], Class Predicted = 1
 X104 = [1.189e+01 1.835e+01 7.732e+01 4.322e+02 9.363e-02 1.154e-01 6.636e-02
 3.142e-02 1.967e-01 6.314e-02 2.963e-01 1.563e+00 2.087e+00 2.146e+01
 8.872e-03 4.192e-02 5.946e-02 1.785e-02 2.793e-02 4.775e-03 1.325e+01
 2.710e+01 8.620e+01 5.312e+02 1.405e-01 3.046e-01 2.806e-01 1.138e-01
 3.397e-01 8.365e-02], Class Predicted = 1
 X105 = [1.051e+01 2.309e+01 6.685e+01 3.342e+02 1.015e-01 6.797e-02 2.495e-02
 1.875e-02 1.695e-01 6.556e-02 2.868e-01 1.143e+00 2.289e+00 2.056e+01
 1.017e-02 1.443e-02 1.861e-02 1.250e-02 3.464e-02 1.971e-03 1.093e+01
 2.422e+01 7.010e+01 3.627e+02 1.143e-01 8.614e-02 4.158e-02 3.125e-02
 2.227e-01 6.777e-02], Class Predicted = 1
 X106 = [1.405e+01 2.715e+01 9.138e+01 6.004e+02 9.929e-02 1.126e-01 4.462e-02
 4.304e-02 1.537e-01 6.171e-02 3.645e-01 1.492e+00 2.888e+00 2.984e+01
 7.256e-03 2.678e-02 2.071e-02 1.626e-02 2.080e-02 5.304e-03 1.530e+01
 3.317e+01 1.002e+02 7.067e+02 1.241e-01 2.264e-01 1.326e-01 1.048e-01
 2.250e-01 8.321e-02], Class Predicted = 1

X107 = [9.423e+00 2.788e+01 5.926e+01 2.713e+02 8.123e-02 4.971e-02 0.000e+00
 0.000e+00 1.742e-01 6.059e-02 5.375e-01 2.927e+00 3.618e+00 2.911e+01
 1.159e-02 1.124e-02 0.000e+00 0.000e+00 3.004e-02 3.324e-03 1.049e+01
 3.424e+01 6.650e+01 3.306e+02 1.073e-01 7.158e-02 0.000e+00 0.000e+00
 2.475e-01 6.969e-02], Class Predicted = 1
 X108 = [1.373e+01 2.261e+01 9.360e+01 5.783e+02 1.131e-01 2.293e-01 2.128e-01
 8.025e-02 2.069e-01 7.682e-02 2.121e-01 1.169e+00 2.061e+00 1.921e+01
 6.429e-03 5.936e-02 5.501e-02 1.628e-02 1.961e-02 8.093e-03 1.503e+01
 3.201e+01 1.088e+02 6.977e+02 1.651e-01 7.725e-01 6.943e-01 2.208e-01
 3.596e-01 1.431e-01], Class Predicted = 0
 X109 = [1.377e+01 2.229e+01 9.063e+01 5.889e+02 1.200e-01 1.267e-01 1.385e-01
 6.526e-02 1.834e-01 6.877e-02 6.191e-01 2.112e+00 4.906e+00 4.970e+01
 1.380e-02 3.348e-02 4.665e-02 2.060e-02 2.689e-02 4.306e-03 1.639e+01
 3.401e+01 1.116e+02 8.069e+02 1.737e-01 3.122e-01 3.809e-01 1.673e-01
 3.080e-01 9.333e-02], Class Predicted = 0
 X110 = [2.020e+01 2.683e+01 1.337e+02 1.234e+03 9.905e-02 1.669e-01 1.641e-01
 1.265e-01 1.875e-01 6.020e-02 9.761e-01 1.892e+00 7.128e+00 1.036e+02
 8.439e-03 4.674e-02 5.904e-02 2.536e-02 3.710e-02 4.286e-03 2.419e+01
 3.381e+01 1.600e+02 1.671e+03 1.278e-01 3.416e-01 3.703e-01 2.152e-01
 3.271e-01 7.632e-02], Class Predicted = 0
 X111 = [1.989e+01 2.026e+01 1.305e+02 1.214e+03 1.037e-01 1.310e-01 1.411e-01
 9.431e-02 1.802e-01 6.188e-02 5.079e-01 8.737e-01 3.654e+00 5.970e+01
 5.089e-03 2.303e-02 3.052e-02 1.178e-02 1.057e-02 3.391e-03 2.373e+01
 2.523e+01 1.605e+02 1.646e+03 1.417e-01 3.309e-01 4.185e-01 1.613e-01
 2.549e-01 9.136e-02], Class Predicted = 0
 X112 = [1.442e+01 1.654e+01 9.415e+01 6.412e+02 9.751e-02 1.139e-01 8.007e-02
 4.223e-02 1.912e-01 6.412e-02 3.491e-01 7.706e-01 2.677e+00 3.214e+01
 4.577e-03 3.053e-02 3.840e-02 1.243e-02 1.873e-02 3.373e-03 1.667e+01
 2.151e+01 1.114e+02 8.621e+02 1.294e-01 3.371e-01 3.755e-01 1.414e-01
 3.053e-01 8.764e-02], Class Predicted = 1
 X113 = [1.108e+01 1.883e+01 7.330e+01 3.616e+02 1.216e-01 2.154e-01 1.689e-01
 6.367e-02 2.196e-01 7.950e-02 2.114e-01 1.027e+00 1.719e+00 1.399e+01
 7.405e-03 4.549e-02 4.588e-02 1.339e-02 1.738e-02 4.435e-03 1.324e+01
 3.282e+01 9.176e+01 5.081e+02 2.184e-01 9.379e-01 8.402e-01 2.524e-01
 4.154e-01 1.403e-01], Class Predicted = 0
 X114 = [1.378e+01 1.579e+01 8.837e+01 5.859e+02 8.817e-02 6.718e-02 1.055e-02
 9.937e-03 1.405e-01 5.848e-02 3.563e-01 4.833e-01 2.235e+00 2.934e+01
 6.432e-03 1.156e-02 7.741e-03 5.657e-03 1.227e-02 2.564e-03 1.527e+01
 1.750e+01 9.790e+01 7.066e+02 1.072e-01 1.071e-01 3.517e-02 3.312e-02
 1.859e-01 6.810e-02], Class Predicted = 1
 X115 = [1.075e+01 1.497e+01 6.826e+01 3.553e+02 7.793e-02 5.139e-02 2.251e-02
 7.875e-03 1.399e-01 5.688e-02 2.525e-01 1.239e+00 1.806e+00 1.774e+01
 6.547e-03 1.781e-02 2.018e-02 5.612e-03 1.671e-02 2.360e-03 1.195e+01
 2.072e+01 7.779e+01 4.412e+02 1.076e-01 1.223e-01 9.755e-02 3.413e-02
 2.300e-01 6.769e-02], Class Predicted = 1
 X116 = [1.478e+01 2.394e+01 9.740e+01 6.683e+02 1.172e-01 1.479e-01 1.267e-01
 9.029e-02 1.953e-01 6.654e-02 3.577e-01 1.281e+00 2.450e+00 3.524e+01
 6.703e-03 2.310e-02 2.315e-02 1.184e-02 1.900e-02 3.224e-03 1.731e+01
 3.339e+01 1.146e+02 9.251e+02 1.648e-01 3.416e-01 3.024e-01 1.614e-01
 3.321e-01 8.911e-02], Class Predicted = 0
 X117 = [1.175e+01 1.756e+01 7.589e+01 4.229e+02 1.073e-01 9.713e-02 5.282e-02
 4.440e-02 1.598e-01 6.677e-02 4.384e-01 1.907e+00 3.149e+00 3.066e+01
 6.587e-03 1.815e-02 1.737e-02 1.316e-02 1.835e-02 2.318e-03 1.350e+01
 2.798e+01 8.852e+01 5.523e+02 1.349e-01 1.854e-01 1.366e-01 1.010e-01
 2.478e-01 7.757e-02], Class Predicted = 1
 X118 = [1.301e+01 2.222e+01 8.201e+01 5.264e+02 6.251e-02 1.938e-02 1.595e-03
 1.852e-03 1.395e-01 5.234e-02 1.731e-01 1.142e+00 1.101e+00 1.434e+01
 3.418e-03 2.252e-03 1.595e-03 1.852e-03 1.613e-02 9.683e-04 1.400e+01
 2.902e+01 8.818e+01 6.088e+02 8.125e-02 3.432e-02 7.977e-03 9.259e-03
 2.295e-01 5.843e-02], Class Predicted = 1
 X119 = [2.047e+01 2.067e+01 1.347e+02 1.299e+03 9.156e-02 1.313e-01 1.523e-01
 1.015e-01 2.166e-01 5.419e-02 8.336e-01 1.736e+00 5.168e+00 1.004e+02
 4.938e-03 3.089e-02 4.093e-02 1.699e-02 2.816e-02 2.719e-03 2.323e+01
 2.715e+01 1.520e+02 1.645e+03 1.097e-01 2.534e-01 3.092e-01 1.613e-01
 3.220e-01 6.386e-02], Class Predicted = 0
 X120 = [1.169e+01 2.444e+01 7.637e+01 4.064e+02 1.236e-01 1.552e-01 4.515e-02
 4.531e-02 2.131e-01 7.405e-02 2.957e-01 1.978e+00 2.158e+00 2.095e+01
 1.288e-02 3.495e-02 1.865e-02 1.766e-02 1.560e-02 5.824e-03 1.298e+01
 3.219e+01 8.612e+01 4.877e+02 1.768e-01 3.251e-01 1.395e-01 1.308e-01

2.803e-01 9.970e-02], Class Predicted = 1
 X121 = [1.157e+01 1.904e+01 7.420e+01 4.097e+02 8.546e-02 7.722e-02 5.485e-02
 1.428e-02 2.031e-01 6.267e-02 2.864e-01 1.440e+00 2.206e+00 2.030e+01
 7.278e-03 2.047e-02 4.447e-02 8.799e-03 1.868e-02 3.339e-03 1.307e+01
 2.698e+01 8.643e+01 5.205e+02 1.249e-01 1.937e-01 2.560e-01 6.664e-02
 3.035e-01 8.284e-02], Class Predicted = 1
 X122 = [1.380e+01 1.579e+01 9.043e+01 5.841e+02 1.007e-01 1.280e-01 7.789e-02
 5.069e-02 1.662e-01 6.566e-02 2.787e-01 6.205e-01 1.957e+00 2.335e+01
 4.717e-03 2.065e-02 1.759e-02 9.206e-03 1.220e-02 3.130e-03 1.657e+01
 2.086e+01 1.103e+02 8.124e+02 1.411e-01 3.542e-01 2.779e-01 1.383e-01
 2.589e-01 1.030e-01], Class Predicted = 1
 X123 = [1.445e+01 2.022e+01 9.449e+01 6.427e+02 9.872e-02 1.206e-01 1.180e-01
 5.980e-02 1.950e-01 6.466e-02 2.092e-01 6.509e-01 1.446e+00 1.942e+01
 4.044e-03 1.597e-02 2.000e-02 7.303e-03 1.522e-02 1.976e-03 1.833e+01
 3.012e+01 1.179e+02 1.044e+03 1.552e-01 4.056e-01 4.967e-01 1.838e-01
 4.753e-01 1.013e-01], Class Predicted = 0
 X124 = [1.546e+01 1.948e+01 1.017e+02 7.489e+02 1.092e-01 1.223e-01 1.466e-01
 8.087e-02 1.931e-01 5.796e-02 4.743e-01 7.859e-01 3.094e+00 4.831e+01
 6.240e-03 1.484e-02 2.813e-02 1.093e-02 1.397e-02 2.461e-03 1.926e+01
 2.600e+01 1.249e+02 1.156e+03 1.546e-01 2.394e-01 3.791e-01 1.514e-01
 2.837e-01 8.019e-02], Class Predicted = 0
 X125 = [2.060e+01 2.933e+01 1.401e+02 1.265e+03 1.178e-01 2.770e-01 3.514e-01
 1.520e-01 2.397e-01 7.016e-02 7.260e-01 1.595e+00 5.772e+00 8.622e+01
 6.522e-03 6.158e-02 7.117e-02 1.664e-02 2.324e-02 6.185e-03 2.574e+01
 3.942e+01 1.846e+02 1.821e+03 1.650e-01 8.681e-01 9.387e-01 2.650e-01
 4.087e-01 1.240e-01], Class Predicted = 0
 X126 = [1.422e+01 2.312e+01 9.437e+01 6.099e+02 1.075e-01 2.413e-01 1.981e-01
 6.618e-02 2.384e-01 7.542e-02 2.860e-01 2.110e+00 2.112e+00 3.172e+01
 7.970e-03 1.354e-01 1.166e-01 1.666e-02 5.113e-02 1.172e-02 1.574e+01
 3.718e+01 1.064e+02 7.624e+02 1.533e-01 9.327e-01 8.488e-01 1.772e-01
 5.166e-01 1.446e-01], Class Predicted = 0
 X127 = [8.878e+00 1.549e+01 5.674e+01 2.410e+02 8.293e-02 7.698e-02 4.721e-02
 2.381e-02 1.930e-01 6.621e-02 5.381e-01 1.200e+00 4.277e+00 3.018e+01
 1.093e-02 2.899e-02 3.214e-02 1.506e-02 2.837e-02 4.174e-03 9.981e+00
 1.770e+01 6.527e+01 3.020e+02 1.015e-01 1.248e-01 9.441e-02 4.762e-02
 2.434e-01 7.431e-02], Class Predicted = 1
 X128 = [1.256e+01 1.907e+01 8.192e+01 4.858e+02 8.760e-02 1.038e-01 1.030e-01
 4.391e-02 1.533e-01 6.184e-02 3.602e-01 1.478e+00 3.212e+00 2.749e+01
 9.853e-03 4.235e-02 6.271e-02 1.966e-02 2.639e-02 4.205e-03 1.337e+01
 2.243e+01 8.902e+01 5.474e+02 1.096e-01 2.002e-01 2.388e-01 9.265e-02
 2.121e-01 7.188e-02], Class Predicted = 1
 X129 = [1.143e+01 1.731e+01 7.366e+01 3.980e+02 1.092e-01 9.486e-02 2.031e-02
 1.861e-02 1.645e-01 6.562e-02 2.843e-01 1.908e+00 1.937e+00 2.138e+01
 6.664e-03 1.735e-02 1.158e-02 9.520e-03 2.282e-02 3.526e-03 1.278e+01
 2.676e+01 8.266e+01 5.030e+02 1.413e-01 1.792e-01 7.708e-02 6.402e-02
 2.584e-01 8.096e-02], Class Predicted = 1
 X130 = [1.210e+01 1.772e+01 7.807e+01 4.462e+02 1.029e-01 9.758e-02 4.783e-02
 3.326e-02 1.937e-01 6.161e-02 2.841e-01 1.652e+00 1.869e+00 2.222e+01
 8.146e-03 1.631e-02 1.843e-02 7.513e-03 2.015e-02 1.798e-03 1.356e+01
 2.580e+01 8.833e+01 5.595e+02 1.432e-01 1.773e-01 1.603e-01 6.266e-02
 3.049e-01 7.081e-02], Class Predicted = 1
 X131 = [9.777e+00 1.699e+01 6.250e+01 2.902e+02 1.037e-01 8.404e-02 4.334e-02
 1.778e-02 1.584e-01 7.065e-02 4.030e-01 1.424e+00 2.747e+00 2.287e+01
 1.385e-02 2.932e-02 2.722e-02 1.023e-02 3.281e-02 4.638e-03 1.105e+01
 2.147e+01 7.168e+01 3.670e+02 1.467e-01 1.765e-01 1.300e-01 5.334e-02
 2.533e-01 8.468e-02], Class Predicted = 1
 X132 = [1.361e+01 2.469e+01 8.776e+01 5.726e+02 9.258e-02 7.862e-02 5.285e-02
 3.085e-02 1.761e-01 6.130e-02 2.310e-01 1.005e+00 1.752e+00 1.983e+01
 4.088e-03 1.174e-02 1.796e-02 6.880e-03 1.323e-02 1.465e-03 1.689e+01
 3.564e+01 1.132e+02 8.487e+02 1.471e-01 2.884e-01 3.796e-01 1.329e-01
 3.470e-01 7.900e-02], Class Predicted = 1
 X133 = [9.397e+00 2.168e+01 5.975e+01 2.688e+02 7.969e-02 6.053e-02 3.735e-02
 5.128e-03 1.274e-01 6.724e-02 1.186e-01 1.182e+00 1.174e+00 6.802e+00
 5.515e-03 2.674e-02 3.735e-02 5.128e-03 1.951e-02 4.583e-03 9.965e+00
 2.799e+01 6.661e+01 3.010e+02 1.086e-01 1.887e-01 1.868e-01 2.564e-02
 2.376e-01 9.206e-02], Class Predicted = 1
 X134 = [1.785e+01 1.323e+01 1.146e+02 9.921e+02 7.838e-02 6.217e-02 4.445e-02
 4.178e-02 1.220e-01 5.243e-02 4.834e-01 1.046e+00 3.163e+00 5.095e+01
 4.369e-03 8.274e-03 1.153e-02 7.437e-03 1.302e-02 1.309e-03 1.982e+01

1.842e+01 1.271e+02 1.210e+03 9.862e-02 9.976e-02 1.048e-01 8.341e-02
 1.783e-01 5.871e-02], Class Predicted = 0
 X135 = [1.317e+01 1.822e+01 8.428e+01 5.373e+02 7.466e-02 5.994e-02 4.859e-02
 2.870e-02 1.454e-01 5.549e-02 2.023e-01 6.850e-01 1.236e+00 1.689e+01
 5.969e-03 1.493e-02 1.564e-02 8.463e-03 1.093e-02 1.672e-03 1.490e+01
 2.389e+01 9.510e+01 6.876e+02 1.282e-01 1.965e-01 1.876e-01 1.045e-01
 2.235e-01 6.925e-02], Class Predicted = 1
 X136 = [1.444e+01 1.518e+01 9.397e+01 6.401e+02 9.970e-02 1.021e-01 8.487e-02
 5.532e-02 1.724e-01 6.081e-02 2.406e-01 7.394e-01 2.120e+00 2.120e+01
 5.706e-03 2.297e-02 3.114e-02 1.493e-02 1.454e-02 2.528e-03 1.585e+01
 1.985e+01 1.086e+02 7.669e+02 1.316e-01 2.735e-01 3.103e-01 1.599e-01
 2.691e-01 7.683e-02], Class Predicted = 1
 X137 = [1.553e+01 3.356e+01 1.037e+02 7.449e+02 1.063e-01 1.639e-01 1.751e-01
 8.399e-02 2.091e-01 6.650e-02 2.419e-01 1.278e+00 1.903e+00 2.302e+01
 5.345e-03 2.556e-02 2.889e-02 1.022e-02 9.947e-03 3.359e-03 1.849e+01
 4.954e+01 1.263e+02 1.035e+03 1.883e-01 5.564e-01 5.703e-01 2.014e-01
 3.512e-01 1.204e-01], Class Predicted = 0
 X138 = [9.567e+00 1.591e+01 6.021e+01 2.796e+02 8.464e-02 4.087e-02 1.652e-02
 1.667e-02 1.551e-01 6.403e-02 2.152e-01 8.301e-01 1.215e+00 1.264e+01
 1.164e-02 1.040e-02 1.186e-02 9.623e-03 2.383e-02 3.540e-03 1.051e+01
 1.916e+01 6.574e+01 3.359e+02 1.504e-01 9.515e-02 7.161e-02 7.222e-02
 2.757e-01 8.178e-02], Class Predicted = 1
 X139 = [1.227e+01 1.792e+01 7.841e+01 4.661e+02 8.685e-02 6.526e-02 3.211e-02
 2.653e-02 1.966e-01 5.597e-02 3.342e-01 1.781e+00 2.079e+00 2.579e+01
 5.888e-03 2.310e-02 2.059e-02 1.075e-02 2.578e-02 2.267e-03 1.410e+01
 2.888e+01 8.900e+01 6.102e+02 1.240e-01 1.795e-01 1.377e-01 9.532e-02
 3.455e-01 6.896e-02], Class Predicted = 1
 X140 = [2.034e+01 2.151e+01 1.359e+02 1.264e+03 1.170e-01 1.875e-01 2.565e-01
 1.504e-01 2.569e-01 6.670e-02 5.702e-01 1.023e+00 4.012e+00 6.906e+01
 5.485e-03 2.431e-02 3.190e-02 1.369e-02 2.768e-02 3.345e-03 2.530e+01
 3.186e+01 1.711e+02 1.938e+03 1.592e-01 4.492e-01 5.344e-01 2.685e-01
 5.558e-01 1.024e-01], Class Predicted = 0
 X141 = [1.071e+01 2.039e+01 6.950e+01 3.449e+02 1.082e-01 1.289e-01 8.448e-02
 2.867e-02 1.668e-01 6.862e-02 3.198e-01 1.489e+00 2.230e+00 2.074e+01
 8.902e-03 4.785e-02 7.339e-02 1.745e-02 2.728e-02 7.610e-03 1.169e+01
 2.521e+01 7.651e+01 4.104e+02 1.335e-01 2.550e-01 2.534e-01 8.600e-02
 2.605e-01 8.701e-02], Class Predicted = 1
 X142 = [1.097e+01 1.720e+01 7.173e+01 3.715e+02 8.915e-02 1.113e-01 9.457e-02
 3.613e-02 1.489e-01 6.640e-02 2.574e-01 1.376e+00 2.806e+00 1.815e+01
 8.565e-03 4.638e-02 6.430e-02 1.768e-02 1.516e-02 4.976e-03 1.236e+01
 2.687e+01 9.014e+01 4.764e+02 1.391e-01 4.082e-01 4.779e-01 1.555e-01
 2.540e-01 9.532e-02], Class Predicted = 1
 X143 = [1.381e+01 2.375e+01 9.156e+01 5.978e+02 1.323e-01 1.768e-01 1.558e-01
 9.176e-02 2.251e-01 7.421e-02 5.648e-01 1.930e+00 3.909e+00 5.272e+01
 8.824e-03 3.108e-02 3.112e-02 1.291e-02 1.998e-02 4.506e-03 1.920e+01
 4.185e+01 1.285e+02 1.153e+03 2.226e-01 5.209e-01 4.646e-01 2.013e-01
 4.432e-01 1.086e-01], Class Predicted = 0
 X144 = [1.289e+01 1.312e+01 8.189e+01 5.159e+02 6.955e-02 3.729e-02 2.260e-02
 1.171e-02 1.337e-01 5.581e-02 1.532e-01 4.690e-01 1.115e+00 1.268e+01
 4.731e-03 1.345e-02 1.652e-02 5.905e-03 1.619e-02 2.081e-03 1.362e+01
 1.554e+01 8.740e+01 5.770e+02 9.616e-02 1.147e-01 1.186e-01 5.366e-02
 2.309e-01 6.915e-02], Class Predicted = 1
 X145 = [1.174e+01 1.402e+01 7.424e+01 4.273e+02 7.813e-02 4.340e-02 2.245e-02
 2.763e-02 2.101e-01 6.113e-02 5.619e-01 1.268e+00 3.717e+00 3.783e+01
 8.034e-03 1.442e-02 1.514e-02 1.846e-02 2.921e-02 2.005e-03 1.331e+01
 1.826e+01 8.470e+01 5.337e+02 1.036e-01 8.500e-02 6.735e-02 8.290e-02
 3.101e-01 6.688e-02], Class Predicted = 1
 X146 = [1.404e+01 1.598e+01 8.978e+01 6.112e+02 8.458e-02 5.895e-02 3.534e-02
 2.944e-02 1.714e-01 5.898e-02 3.892e-01 1.046e+00 2.644e+00 3.274e+01
 7.976e-03 1.295e-02 1.608e-02 9.046e-03 2.005e-02 2.830e-03 1.566e+01
 2.158e+01 1.012e+02 7.500e+02 1.195e-01 1.252e-01 1.117e-01 7.453e-02
 2.725e-01 7.234e-02], Class Predicted = 1
 X147 = [1.236e+01 2.180e+01 7.978e+01 4.661e+02 8.772e-02 9.445e-02 6.015e-02
 3.745e-02 1.930e-01 6.404e-02 2.978e-01 1.502e+00 2.203e+00 2.095e+01
 7.112e-03 2.493e-02 2.703e-02 1.293e-02 1.958e-02 4.463e-03 1.383e+01
 3.050e+01 9.146e+01 5.747e+02 1.304e-01 2.463e-01 2.434e-01 1.205e-01
 2.972e-01 9.261e-02], Class Predicted = 1
 X148 = [9.742e+00 1.912e+01 6.193e+01 2.897e+02 1.075e-01 8.333e-02 8.934e-03
 1.967e-02 2.538e-01 7.029e-02 6.965e-01 1.747e+00 4.607e+00 4.352e+01

1.307e-02 1.885e-02 6.021e-03 1.052e-02 3.100e-02 4.225e-03 1.121e+01
 2.317e+01 7.179e+01 3.809e+02 1.398e-01 1.352e-01 2.085e-02 4.589e-02
 3.196e-01 8.009e-02], Class Predicted = 1
 X149 = [1.866e+01 1.712e+01 1.214e+02 1.077e+03 1.054e-01 1.100e-01 1.457e-01
 8.665e-02 1.966e-01 6.213e-02 7.128e-01 1.581e+00 4.895e+00 9.047e+01
 8.102e-03 2.101e-02 3.342e-02 1.601e-02 2.045e-02 4.570e-03 2.225e+01
 2.490e+01 1.454e+02 1.549e+03 1.503e-01 2.291e-01 3.272e-01 1.674e-01
 2.894e-01 8.456e-02], Class Predicted = 0
 X150 = [1.388e+01 1.616e+01 8.837e+01 5.966e+02 7.026e-02 4.831e-02 2.045e-02
 8.507e-03 1.607e-01 5.474e-02 2.541e-01 6.218e-01 1.709e+00 2.312e+01
 3.728e-03 1.415e-02 1.988e-02 7.016e-03 1.647e-02 1.970e-03 1.551e+01
 1.997e+01 9.966e+01 7.453e+02 8.484e-02 1.233e-01 1.091e-01 4.537e-02
 2.542e-01 6.623e-02], Class Predicted = 1
 X151 = [1.132e+01 2.708e+01 7.176e+01 3.957e+02 6.883e-02 3.813e-02 1.633e-02
 3.125e-03 1.869e-01 5.628e-02 1.210e-01 8.927e-01 1.059e+00 8.605e+00
 3.653e-03 1.647e-02 1.633e-02 3.125e-03 1.537e-02 2.052e-03 1.208e+01
 3.375e+01 7.982e+01 4.523e+02 9.203e-02 1.432e-01 1.089e-01 2.083e-02
 2.849e-01 7.087e-02], Class Predicted = 1
 X152 = [1.546e+01 2.395e+01 1.038e+02 7.313e+02 1.183e-01 1.870e-01 2.030e-01
 8.520e-02 1.807e-01 7.083e-02 3.331e-01 1.961e+00 2.937e+00 3.252e+01
 9.538e-03 4.940e-02 6.019e-02 2.041e-02 2.105e-02 6.000e-03 1.711e+01
 3.633e+01 1.177e+02 9.094e+02 1.732e-01 4.967e-01 5.911e-01 2.163e-01
 3.013e-01 1.067e-01], Class Predicted = 0
 X153 = [1.532e+01 1.727e+01 1.032e+02 7.133e+02 1.335e-01 2.284e-01 2.448e-01
 1.242e-01 2.398e-01 7.596e-02 6.592e-01 1.059e+00 4.061e+00 5.946e+01
 1.015e-02 4.588e-02 4.983e-02 2.127e-02 1.884e-02 8.660e-03 1.773e+01
 2.266e+01 1.198e+02 9.288e+02 1.765e-01 4.503e-01 4.429e-01 2.229e-01
 3.258e-01 1.191e-01], Class Predicted = 0
 X154 = [1.910e+01 2.629e+01 1.291e+02 1.132e+03 1.215e-01 1.791e-01 1.937e-01
 1.469e-01 1.634e-01 7.224e-02 5.190e-01 2.910e+00 5.801e+00 6.710e+01
 7.545e-03 6.050e-02 2.134e-02 1.843e-02 3.056e-02 1.039e-02 2.033e+01
 3.272e+01 1.413e+02 1.298e+03 1.392e-01 2.817e-01 2.432e-01 1.841e-01
 2.311e-01 9.203e-02], Class Predicted = 0
 X155 = [1.120e+01 2.937e+01 7.067e+01 3.860e+02 7.449e-02 3.558e-02 0.000e+00
 0.000e+00 1.060e-01 5.502e-02 3.141e-01 3.896e+00 2.041e+00 2.281e+01
 7.594e-03 8.878e-03 0.000e+00 0.000e+00 1.989e-02 1.773e-03 1.192e+01
 3.830e+01 7.519e+01 4.396e+02 9.267e-02 5.494e-02 0.000e+00 0.000e+00
 1.566e-01 5.905e-02], Class Predicted = 1
 X156 = [1.831e+01 1.858e+01 1.186e+02 1.041e+03 8.588e-02 8.468e-02 8.169e-02
 5.814e-02 1.621e-01 5.425e-02 2.577e-01 4.757e-01 1.817e+00 2.892e+01
 2.866e-03 9.181e-03 1.412e-02 6.719e-03 1.069e-02 1.087e-03 2.131e+01
 2.636e+01 1.392e+02 1.410e+03 1.234e-01 2.445e-01 3.538e-01 1.571e-01
 3.206e-01 6.938e-02], Class Predicted = 0
 X157 = [1.280e+01 1.746e+01 8.305e+01 5.083e+02 8.044e-02 8.895e-02 7.390e-02
 4.083e-02 1.574e-01 5.750e-02 3.639e-01 1.265e+00 2.668e+00 3.057e+01
 5.421e-03 3.477e-02 4.545e-02 1.384e-02 1.869e-02 4.067e-03 1.374e+01
 2.106e+01 9.072e+01 5.910e+02 9.534e-02 1.812e-01 1.901e-01 8.296e-02
 1.988e-01 7.053e-02], Class Predicted = 1
 X158 = [8.196e+00 1.684e+01 5.171e+01 2.019e+02 8.600e-02 5.943e-02 1.588e-02
 5.917e-03 1.769e-01 6.503e-02 1.563e-01 9.567e-01 1.094e+00 8.205e+00
 8.968e-03 1.646e-02 1.588e-02 5.917e-03 2.574e-02 2.582e-03 8.964e+00
 2.196e+01 5.726e+01 2.422e+02 1.297e-01 1.357e-01 6.880e-02 2.564e-02
 3.105e-01 7.409e-02], Class Predicted = 1
 X159 = [1.706e+01 2.100e+01 1.118e+02 9.186e+02 1.119e-01 1.056e-01 1.508e-01
 9.934e-02 1.727e-01 6.071e-02 8.161e-01 2.129e+00 6.076e+00 8.717e+01
 6.455e-03 1.797e-02 4.502e-02 1.744e-02 1.829e-02 3.733e-03 2.099e+01
 3.315e+01 1.432e+02 1.362e+03 1.449e-01 2.053e-01 3.920e-01 1.827e-01
 2.623e-01 7.599e-02], Class Predicted = 0
 X160 = [1.327e+01 1.702e+01 8.455e+01 5.464e+02 8.445e-02 4.994e-02 3.554e-02
 2.456e-02 1.496e-01 5.674e-02 2.927e-01 8.907e-01 2.044e+00 2.468e+01
 6.032e-03 1.104e-02 2.259e-02 9.057e-03 1.482e-02 2.496e-03 1.514e+01
 2.360e+01 9.884e+01 7.088e+02 1.276e-01 1.311e-01 1.786e-01 9.678e-02
 2.506e-01 7.623e-02], Class Predicted = 1
 X161 = [1.090e+01 1.296e+01 6.869e+01 3.668e+02 7.515e-02 3.718e-02 3.090e-03
 6.588e-03 1.442e-01 5.743e-02 2.818e-01 7.614e-01 1.808e+00 1.854e+01
 6.142e-03 6.134e-03 1.835e-03 3.576e-03 1.637e-02 2.665e-03 1.236e+01
 1.820e+01 7.807e+01 4.700e+02 1.171e-01 8.294e-02 1.854e-02 3.953e-02
 2.738e-01 7.685e-02], Class Predicted = 1
 X162 = [1.294e+01 1.617e+01 8.318e+01 5.076e+02 9.879e-02 8.836e-02 3.296e-02

2.390e-02 1.735e-01 6.200e-02 1.458e-01 9.050e-01 9.975e-01 1.136e+01
 2.887e-03 1.285e-02 1.613e-02 7.308e-03 1.870e-02 1.972e-03 1.386e+01
 2.302e+01 8.969e+01 5.809e+02 1.172e-01 1.958e-01 1.810e-01 8.388e-02
 3.297e-01 7.834e-02], Class Predicted = 1
 X163 = [1.082e+01 2.421e+01 6.889e+01 3.616e+02 8.192e-02 6.602e-02 1.548e-02
 8.160e-03 1.976e-01 6.328e-02 5.196e-01 1.918e+00 3.564e+00 3.300e+01
 8.263e-03 1.870e-02 1.277e-02 5.917e-03 2.466e-02 2.977e-03 1.303e+01
 3.145e+01 8.390e+01 5.056e+02 1.204e-01 1.633e-01 6.194e-02 3.264e-02
 3.059e-01 7.626e-02], Class Predicted = 1
 X164 = [1.495e+01 1.757e+01 9.685e+01 6.781e+02 1.167e-01 1.305e-01 1.539e-01
 8.624e-02 1.957e-01 6.216e-02 1.296e+00 1.452e+00 8.419e+00 1.019e+02
 1.000e-02 3.480e-02 6.577e-02 2.801e-02 5.168e-02 2.887e-03 1.855e+01
 2.143e+01 1.214e+02 9.714e+02 1.411e-01 2.164e-01 3.355e-01 1.667e-01
 3.414e-01 7.147e-02], Class Predicted = 0
 X165 = [1.106e+01 1.496e+01 7.149e+01 3.739e+02 1.033e-01 9.097e-02 5.397e-02
 3.341e-02 1.776e-01 6.907e-02 1.601e-01 8.225e-01 1.355e+00 1.080e+01
 7.416e-03 1.877e-02 2.758e-02 1.010e-02 2.348e-02 2.917e-03 1.192e+01
 1.990e+01 7.976e+01 4.400e+02 1.418e-01 2.210e-01 2.299e-01 1.075e-01
 3.301e-01 9.080e-02], Class Predicted = 1
 X166 = [1.959e+01 2.500e+01 1.277e+02 1.191e+03 1.032e-01 9.871e-02 1.655e-01
 9.063e-02 1.663e-01 5.391e-02 4.674e-01 1.375e+00 2.916e+00 5.618e+01
 1.190e-02 1.929e-02 4.907e-02 1.499e-02 1.641e-02 1.807e-03 2.144e+01
 3.096e+01 1.398e+02 1.421e+03 1.528e-01 1.845e-01 3.977e-01 1.466e-01
 2.293e-01 6.091e-02], Class Predicted = 0
 X167 = [1.881e+01 1.998e+01 1.209e+02 1.102e+03 8.923e-02 5.884e-02 8.020e-02
 5.843e-02 1.550e-01 4.996e-02 3.283e-01 8.280e-01 2.363e+00 3.674e+01
 7.571e-03 1.114e-02 2.623e-02 1.463e-02 1.930e-02 1.676e-03 1.996e+01
 2.430e+01 1.290e+02 1.236e+03 1.243e-01 1.160e-01 2.210e-01 1.294e-01
 2.567e-01 5.737e-02], Class Predicted = 0
 X168 = [1.195e+01 1.496e+01 7.723e+01 4.267e+02 1.158e-01 1.206e-01 1.171e-02
 1.787e-02 2.459e-01 6.581e-02 3.610e-01 1.050e+00 2.455e+00 2.665e+01
 5.800e-03 2.417e-02 7.816e-03 1.052e-02 2.734e-02 3.114e-03 1.281e+01
 1.772e+01 8.309e+01 4.962e+02 1.293e-01 1.885e-01 3.122e-02 4.766e-02
 3.124e-01 7.590e-02], Class Predicted = 1
 X169 = [2.026e+01 2.303e+01 1.324e+02 1.264e+03 9.078e-02 1.313e-01 1.465e-01
 8.683e-02 2.095e-01 5.649e-02 7.576e-01 1.509e+00 4.554e+00 8.787e+01
 6.016e-03 3.482e-02 4.232e-02 1.269e-02 2.657e-02 4.411e-03 2.422e+01
 3.159e+01 1.561e+02 1.750e+03 1.190e-01 3.539e-01 4.098e-01 1.573e-01
 3.689e-01 8.368e-02], Class Predicted = 0
 X170 = [1.176e+01 1.814e+01 7.500e+01 4.311e+02 9.968e-02 5.914e-02 2.685e-02
 3.515e-02 1.619e-01 6.287e-02 6.450e-01 2.105e+00 4.138e+00 4.911e+01
 5.596e-03 1.005e-02 1.272e-02 1.432e-02 1.575e-02 2.758e-03 1.336e+01
 2.339e+01 8.510e+01 5.536e+02 1.137e-01 7.974e-02 6.120e-02 7.160e-02
 1.978e-01 6.915e-02], Class Predicted = 1
 X171 = [1.300e+01 2.513e+01 8.261e+01 5.202e+02 8.369e-02 5.073e-02 1.206e-02
 1.762e-02 1.667e-01 5.449e-02 2.621e-01 1.232e+00 1.657e+00 2.119e+01
 6.054e-03 8.974e-03 5.681e-03 6.336e-03 1.215e-02 1.514e-03 1.434e+01
 3.188e+01 9.106e+01 6.285e+02 1.218e-01 1.093e-01 4.462e-02 5.921e-02
 2.306e-01 6.291e-02], Class Predicted = 1
 X172 = [1.032e+01 1.635e+01 6.531e+01 3.249e+02 9.434e-02 4.994e-02 1.012e-02
 5.495e-03 1.885e-01 6.201e-02 2.104e-01 9.670e-01 1.356e+00 1.297e+01
 7.086e-03 7.247e-03 1.012e-02 5.495e-03 1.560e-02 2.606e-03 1.125e+01
 2.177e+01 7.112e+01 3.849e+02 1.285e-01 8.842e-02 4.384e-02 2.381e-02
 2.681e-01 7.399e-02], Class Predicted = 1
 X173 = [1.793e+01 2.448e+01 1.152e+02 9.989e+02 8.855e-02 7.027e-02 5.699e-02
 4.744e-02 1.538e-01 5.510e-02 4.212e-01 1.433e+00 2.765e+00 4.581e+01
 5.444e-03 1.169e-02 1.622e-02 8.522e-03 1.419e-02 2.751e-03 2.092e+01
 3.469e+01 1.351e+02 1.320e+03 1.315e-01 1.806e-01 2.080e-01 1.136e-01
 2.504e-01 7.948e-02], Class Predicted = 0
 X174 = [1.171e+01 1.545e+01 7.503e+01 4.203e+02 1.150e-01 7.281e-02 4.006e-02
 3.250e-02 2.009e-01 6.506e-02 3.446e-01 7.395e-01 2.355e+00 2.453e+01
 9.536e-03 1.097e-02 1.651e-02 1.121e-02 1.953e-02 3.100e-03 1.306e+01
 1.816e+01 8.416e+01 5.164e+02 1.460e-01 1.115e-01 1.087e-01 7.864e-02
 2.765e-01 7.806e-02], Class Predicted = 1
 X175 = [1.447e+01 2.499e+01 9.581e+01 6.564e+02 8.837e-02 1.230e-01 1.009e-01
 3.890e-02 1.872e-01 6.341e-02 2.542e-01 1.079e+00 2.615e+00 2.311e+01
 7.138e-03 4.653e-02 3.829e-02 1.162e-02 2.068e-02 6.111e-03 1.622e+01
 3.173e+01 1.135e+02 8.089e+02 1.340e-01 4.202e-01 4.040e-01 1.205e-01
 3.187e-01 1.023e-01], Class Predicted = 1

X176 = [1.162e+01 1.818e+01 7.638e+01 4.088e+02 1.175e-01 1.483e-01 1.020e-01
 5.564e-02 1.957e-01 7.255e-02 4.101e-01 1.740e+00 3.027e+00 2.785e+01
 1.459e-02 3.206e-02 4.961e-02 1.841e-02 1.807e-02 5.217e-03 1.336e+01
 2.540e+01 8.814e+01 5.281e+02 1.780e-01 2.878e-01 3.186e-01 1.416e-01
 2.660e-01 9.270e-02], Class Predicted = 1
 X177 = [1.283e+01 1.573e+01 8.289e+01 5.069e+02 9.040e-02 8.269e-02 5.835e-02
 3.078e-02 1.705e-01 5.913e-02 1.499e-01 4.875e-01 1.195e+00 1.164e+01
 4.873e-03 1.796e-02 3.318e-02 8.360e-03 1.601e-02 2.289e-03 1.409e+01
 1.935e+01 9.322e+01 6.058e+02 1.326e-01 2.610e-01 3.476e-01 9.783e-02
 3.006e-01 7.802e-02], Class Predicted = 1
 X178 = [2.094e+01 2.356e+01 1.389e+02 1.364e+03 1.007e-01 1.606e-01 2.712e-01
 1.310e-01 2.205e-01 5.898e-02 1.004e+00 8.208e-01 6.372e+00 1.379e+02
 5.283e-03 3.908e-02 9.518e-02 1.864e-02 2.401e-02 5.002e-03 2.558e+01
 2.700e+01 1.653e+02 2.010e+03 1.211e-01 3.172e-01 6.991e-01 2.105e-01
 3.126e-01 7.849e-02], Class Predicted = 0
 X179 = [1.369e+01 1.607e+01 8.784e+01 5.791e+02 8.302e-02 6.374e-02 2.556e-02
 2.031e-02 1.872e-01 5.669e-02 1.705e-01 5.066e-01 1.372e+00 1.400e+01
 4.230e-03 1.587e-02 1.169e-02 6.335e-03 1.943e-02 2.177e-03 1.484e+01
 2.021e+01 9.916e+01 6.706e+02 1.105e-01 2.096e-01 1.346e-01 6.987e-02
 3.323e-01 7.701e-02], Class Predicted = 1
 X180 = [1.193e+01 2.153e+01 7.653e+01 4.386e+02 9.768e-02 7.849e-02 3.328e-02
 2.008e-02 1.688e-01 6.194e-02 3.118e-01 9.227e-01 2.000e+00 2.479e+01
 7.803e-03 2.507e-02 1.835e-02 7.711e-03 1.278e-02 3.856e-03 1.367e+01
 2.615e+01 8.754e+01 5.830e+02 1.500e-01 2.399e-01 1.503e-01 7.247e-02
 2.438e-01 8.541e-02], Class Predicted = 1
 X181 = [1.126e+01 1.996e+01 7.372e+01 3.941e+02 8.020e-02 1.181e-01 9.274e-02
 5.588e-02 2.595e-01 6.233e-02 4.866e-01 1.905e+00 2.877e+00 3.468e+01
 1.574e-02 8.262e-02 8.099e-02 3.487e-02 3.418e-02 6.517e-03 1.186e+01
 2.233e+01 7.827e+01 4.376e+02 1.028e-01 1.843e-01 1.546e-01 9.314e-02
 2.955e-01 7.009e-02], Class Predicted = 1
 X182 = [1.344e+01 2.158e+01 8.618e+01 5.630e+02 8.162e-02 6.031e-02 3.110e-02
 2.031e-02 1.784e-01 5.587e-02 2.385e-01 8.265e-01 1.572e+00 2.053e+01
 3.280e-03 1.102e-02 1.390e-02 6.881e-03 1.380e-02 1.286e-03 1.593e+01
 3.025e+01 1.025e+02 7.879e+02 1.094e-01 2.043e-01 2.085e-01 1.112e-01
 2.994e-01 7.146e-02], Class Predicted = 1
 X183 = [1.095e+01 2.135e+01 7.190e+01 3.711e+02 1.227e-01 1.218e-01 1.044e-01
 5.669e-02 1.895e-01 6.870e-02 2.366e-01 1.428e+00 1.822e+00 1.697e+01
 8.064e-03 1.764e-02 2.595e-02 1.037e-02 1.357e-02 3.040e-03 1.284e+01
 3.534e+01 8.722e+01 5.140e+02 1.909e-01 2.698e-01 4.023e-01 1.424e-01
 2.964e-01 9.606e-02], Class Predicted = 1
 X184 = [1.262e+01 2.397e+01 8.135e+01 4.964e+02 7.903e-02 7.529e-02 5.438e-02
 2.036e-02 1.514e-01 6.019e-02 2.449e-01 1.066e+00 1.445e+00 1.851e+01
 5.169e-03 2.294e-02 3.016e-02 8.691e-03 1.365e-02 3.407e-03 1.420e+01
 3.131e+01 9.067e+01 6.240e+02 1.227e-01 3.454e-01 3.911e-01 1.180e-01
 2.826e-01 9.585e-02], Class Predicted = 1
 X185 = [1.180e+01 1.726e+01 7.526e+01 4.319e+02 9.087e-02 6.232e-02 2.853e-02
 1.638e-02 1.847e-01 6.019e-02 3.438e-01 1.140e+00 2.225e+00 2.506e+01
 5.463e-03 1.964e-02 2.079e-02 5.398e-03 1.477e-02 3.071e-03 1.345e+01
 2.449e+01 8.600e+01 5.620e+02 1.244e-01 1.726e-01 1.449e-01 5.356e-02
 2.779e-01 8.121e-02], Class Predicted = 1
 X186 = [1.142e+01 2.038e+01 7.758e+01 3.861e+02 1.425e-01 2.839e-01 2.414e-01
 1.052e-01 2.597e-01 9.744e-02 4.956e-01 1.156e+00 3.445e+00 2.723e+01
 9.110e-03 7.458e-02 5.661e-02 1.867e-02 5.963e-02 9.208e-03 1.491e+01
 2.650e+01 9.887e+01 5.677e+02 2.098e-01 8.663e-01 6.869e-01 2.575e-01
 6.638e-01 1.730e-01], Class Predicted = 0
 X187 = [1.396e+01 1.705e+01 9.143e+01 6.024e+02 1.096e-01 1.279e-01 9.789e-02
 5.246e-02 1.908e-01 6.130e-02 4.250e-01 8.098e-01 2.563e+00 3.574e+01
 6.351e-03 2.679e-02 3.119e-02 1.342e-02 2.062e-02 2.695e-03 1.639e+01
 2.207e+01 1.081e+02 8.260e+02 1.512e-01 3.262e-01 3.209e-01 1.374e-01
 3.068e-01 7.957e-02], Class Predicted = 1
 X188 = [2.058e+01 2.214e+01 1.347e+02 1.290e+03 9.090e-02 1.348e-01 1.640e-01
 9.561e-02 1.765e-01 5.024e-02 8.601e-01 1.480e+00 7.029e+00 1.117e+02
 8.124e-03 3.611e-02 5.489e-02 2.765e-02 3.176e-02 2.365e-03 2.324e+01
 2.784e+01 1.583e+02 1.656e+03 1.178e-01 2.920e-01 3.861e-01 1.920e-01
 2.909e-01 5.865e-02], Class Predicted = 0
 X189 = [1.684e+01 1.946e+01 1.084e+02 8.802e+02 7.445e-02 7.223e-02 5.150e-02
 2.771e-02 1.844e-01 5.268e-02 4.789e-01 2.060e+00 3.479e+00 4.661e+01
 3.443e-03 2.661e-02 3.056e-02 1.110e-02 1.520e-02 1.519e-03 1.822e+01
 2.807e+01 1.203e+02 1.032e+03 8.774e-02 1.710e-01 1.882e-01 8.436e-02

2.527e-01 5.972e-02], Class Predicted = 0
 X190 = [1.863e+01 2.511e+01 1.248e+02 1.088e+03 1.064e-01 1.887e-01 2.319e-01
 1.244e-01 2.183e-01 6.197e-02 8.307e-01 1.466e+00 5.574e+00 1.050e+02
 6.248e-03 3.374e-02 5.196e-02 1.158e-02 2.007e-02 4.560e-03 2.315e+01
 3.401e+01 1.605e+02 1.670e+03 1.491e-01 4.257e-01 6.133e-01 1.848e-01
 3.444e-01 9.782e-02], Class Predicted = 0
 X191 = [1.506e+01 1.983e+01 1.003e+02 7.056e+02 1.039e-01 1.553e-01 1.700e-01
 8.815e-02 1.855e-01 6.284e-02 4.768e-01 9.644e-01 3.706e+00 4.714e+01
 9.250e-03 3.715e-02 4.867e-02 1.851e-02 1.498e-02 3.520e-03 1.823e+01
 2.423e+01 1.235e+02 1.025e+03 1.551e-01 4.203e-01 5.203e-01 2.115e-01
 2.834e-01 8.234e-02], Class Predicted = 0
 X192 = [1.221e+01 1.409e+01 7.878e+01 4.620e+02 8.108e-02 7.823e-02 6.839e-02
 2.534e-02 1.646e-01 6.154e-02 2.666e-01 8.309e-01 2.097e+00 1.996e+01
 4.405e-03 3.026e-02 4.344e-02 1.087e-02 1.921e-02 4.622e-03 1.313e+01
 1.929e+01 8.765e+01 5.299e+02 1.026e-01 2.431e-01 3.076e-01 9.140e-02
 2.677e-01 8.824e-02], Class Predicted = 1
 X193 = [9.333e+00 2.194e+01 5.901e+01 2.640e+02 9.240e-02 5.605e-02 3.996e-02
 1.282e-02 1.692e-01 6.576e-02 3.013e-01 1.879e+00 2.121e+00 1.786e+01
 1.094e-02 1.834e-02 3.996e-02 1.282e-02 3.759e-02 4.623e-03 9.845e+00
 2.505e+01 6.286e+01 2.958e+02 1.103e-01 8.298e-02 7.993e-02 2.564e-02
 2.435e-01 7.393e-02], Class Predicted = 1
 X194 = [1.146e+01 1.816e+01 7.359e+01 4.031e+02 8.853e-02 7.694e-02 3.344e-02
 1.502e-02 1.411e-01 6.243e-02 3.278e-01 1.059e+00 2.475e+00 2.293e+01
 6.652e-03 2.652e-02 2.221e-02 7.807e-03 1.894e-02 3.411e-03 1.268e+01
 2.161e+01 8.269e+01 4.898e+02 1.144e-01 1.789e-01 1.226e-01 5.509e-02
 2.208e-01 7.638e-02], Class Predicted = 1
 X195 = [1.499e+01 2.211e+01 9.753e+01 6.937e+02 8.515e-02 1.025e-01 6.859e-02
 3.876e-02 1.944e-01 5.913e-02 3.186e-01 1.336e+00 2.310e+00 2.851e+01
 4.449e-03 2.808e-02 3.312e-02 1.196e-02 1.906e-02 4.015e-03 1.676e+01
 3.155e+01 1.102e+02 8.671e+02 1.077e-01 3.345e-01 3.114e-01 1.308e-01
 3.163e-01 9.251e-02], Class Predicted = 1
 X196 = [1.508e+01 2.574e+01 9.800e+01 7.166e+02 1.024e-01 9.769e-02 1.235e-01
 6.553e-02 1.647e-01 6.464e-02 6.534e-01 1.506e+00 4.174e+00 6.337e+01
 1.052e-02 2.431e-02 4.912e-02 1.746e-02 2.120e-02 4.867e-03 1.851e+01
 3.322e+01 1.212e+02 1.050e+03 1.660e-01 2.356e-01 4.029e-01 1.526e-01
 2.654e-01 9.438e-02], Class Predicted = 0
 X197 = [1.461e+01 1.569e+01 9.268e+01 6.649e+02 7.618e-02 3.515e-02 1.447e-02
 1.877e-02 1.632e-01 5.255e-02 3.160e-01 9.115e-01 1.954e+00 2.890e+01
 5.031e-03 6.021e-03 5.325e-03 6.324e-03 1.494e-02 8.948e-04 1.646e+01
 2.175e+01 1.037e+02 8.408e+02 1.011e-01 7.087e-02 4.746e-02 5.813e-02
 2.530e-01 5.695e-02], Class Predicted = 1
 X198 = [1.808e+01 2.184e+01 1.174e+02 1.024e+03 7.371e-02 8.642e-02 1.103e-01
 5.778e-02 1.770e-01 5.340e-02 6.362e-01 1.305e+00 4.312e+00 7.636e+01
 5.530e-03 5.296e-02 6.110e-02 1.444e-02 2.140e-02 5.036e-03 1.976e+01
 2.470e+01 1.291e+02 1.228e+03 8.822e-02 1.963e-01 2.535e-01 9.181e-02
 2.369e-01 6.558e-02], Class Predicted = 0
 X199 = [1.534e+01 1.426e+01 1.025e+02 7.044e+02 1.073e-01 2.135e-01 2.077e-01
 9.756e-02 2.521e-01 7.032e-02 4.388e-01 7.096e-01 3.384e+00 4.491e+01
 6.789e-03 5.328e-02 6.446e-02 2.252e-02 3.672e-02 4.394e-03 1.807e+01
 1.908e+01 1.251e+02 9.809e+02 1.390e-01 5.954e-01 6.305e-01 2.393e-01
 4.667e-01 9.946e-02], Class Predicted = 0
 X200 = [1.403e+01 2.125e+01 8.979e+01 6.034e+02 9.070e-02 6.945e-02 1.462e-02
 1.896e-02 1.517e-01 5.835e-02 2.589e-01 1.503e+00 1.667e+00 2.207e+01
 7.389e-03 1.383e-02 7.302e-03 1.004e-02 1.263e-02 2.925e-03 1.533e+01
 3.028e+01 9.827e+01 7.155e+02 1.287e-01 1.513e-01 6.231e-02 7.963e-02
 2.226e-01 7.617e-02], Class Predicted = 1
 X201 = [1.803e+01 1.685e+01 1.175e+02 9.900e+02 8.947e-02 1.232e-01 1.090e-01
 6.254e-02 1.720e-01 5.780e-02 2.986e-01 5.906e-01 1.921e+00 3.577e+01
 4.117e-03 1.560e-02 2.975e-02 9.753e-03 1.295e-02 2.436e-03 2.038e+01
 2.202e+01 1.333e+02 1.292e+03 1.263e-01 2.666e-01 4.290e-01 1.535e-01
 2.842e-01 8.225e-02], Class Predicted = 0
 X202 = [1.495e+01 1.877e+01 9.784e+01 6.895e+02 8.138e-02 1.167e-01 9.050e-02
 3.562e-02 1.744e-01 6.493e-02 4.220e-01 1.909e+00 3.271e+00 3.943e+01
 5.790e-03 4.877e-02 5.303e-02 1.527e-02 3.356e-02 9.368e-03 1.625e+01
 2.547e+01 1.071e+02 8.097e+02 9.970e-02 2.521e-01 2.500e-01 8.405e-02
 2.852e-01 9.218e-02], Class Predicted = 1
 X203 = [7.691e+00 2.544e+01 4.834e+01 1.704e+02 8.668e-02 1.199e-01 9.252e-02
 1.364e-02 2.037e-01 7.751e-02 2.196e-01 1.479e+00 1.445e+00 1.173e+01
 1.547e-02 6.457e-02 9.252e-02 1.364e-02 2.105e-02 7.551e-03 8.678e+00

3.189e+01 5.449e+01 2.236e+02 1.596e-01 3.064e-01 3.393e-01 5.000e-02
 2.790e-01 1.066e-01], Class Predicted = 1
 X204 = [1.387e+01 1.621e+01 8.852e+01 5.937e+02 8.743e-02 5.492e-02 1.502e-02
 2.088e-02 1.424e-01 5.883e-02 2.543e-01 1.363e+00 1.737e+00 2.074e+01
 5.638e-03 7.939e-03 5.254e-03 6.042e-03 1.544e-02 2.087e-03 1.511e+01
 2.558e+01 9.674e+01 6.944e+02 1.153e-01 1.008e-01 5.285e-02 5.556e-02
 2.362e-01 7.113e-02], Class Predicted = 1
 X205 = [1.114e+01 1.407e+01 7.124e+01 3.846e+02 7.274e-02 6.064e-02 4.505e-02
 1.471e-02 1.690e-01 6.083e-02 4.222e-01 8.092e-01 3.330e+00 2.884e+01
 5.541e-03 3.387e-02 4.505e-02 1.471e-02 3.102e-02 4.831e-03 1.212e+01
 1.582e+01 7.962e+01 4.535e+02 8.864e-02 1.256e-01 1.201e-01 3.922e-02
 2.576e-01 7.018e-02], Class Predicted = 1
 X206 = [1.176e+01 2.160e+01 7.472e+01 4.279e+02 8.637e-02 4.966e-02 1.657e-02
 1.115e-02 1.495e-01 5.888e-02 4.062e-01 1.210e+00 2.635e+00 2.847e+01
 5.857e-03 9.758e-03 1.168e-02 7.445e-03 2.406e-02 1.769e-03 1.298e+01
 2.572e+01 8.298e+01 5.165e+02 1.085e-01 8.615e-02 5.523e-02 3.715e-02
 2.433e-01 6.563e-02], Class Predicted = 1
 X207 = [1.194e+01 1.824e+01 7.571e+01 4.376e+02 8.261e-02 4.751e-02 1.972e-02
 1.349e-02 1.868e-01 6.110e-02 2.273e-01 6.329e-01 1.520e+00 1.747e+01
 7.210e-03 8.380e-03 1.311e-02 8.000e-03 1.996e-02 2.635e-03 1.310e+01
 2.133e+01 8.367e+01 5.272e+02 1.144e-01 8.906e-02 9.203e-02 6.296e-02
 2.785e-01 7.408e-02], Class Predicted = 1
 X208 = [1.366e+01 1.515e+01 8.827e+01 5.806e+02 8.268e-02 7.548e-02 4.249e-02
 2.471e-02 1.792e-01 5.897e-02 1.402e-01 5.417e-01 1.101e+00 1.135e+01
 5.212e-03 2.984e-02 2.443e-02 8.356e-03 1.818e-02 4.868e-03 1.454e+01
 1.964e+01 9.796e+01 6.570e+02 1.275e-01 3.104e-01 2.569e-01 1.054e-01
 3.387e-01 9.638e-02], Class Predicted = 1
 X209 = [9.668e+00 1.810e+01 6.106e+01 2.863e+02 8.311e-02 5.428e-02 1.479e-02
 5.769e-03 1.680e-01 6.412e-02 3.416e-01 1.312e+00 2.275e+00 2.098e+01
 1.098e-02 1.257e-02 1.031e-02 3.934e-03 2.693e-02 2.979e-03 1.115e+01
 2.462e+01 7.111e+01 3.802e+02 1.388e-01 1.255e-01 6.409e-02 2.500e-02
 3.057e-01 7.875e-02], Class Predicted = 1
 X210 = [1.370e+01 1.764e+01 8.776e+01 5.711e+02 9.950e-02 7.957e-02 4.548e-02
 3.160e-02 1.732e-01 6.088e-02 2.431e-01 9.462e-01 1.564e+00 2.064e+01
 3.245e-03 8.186e-03 1.698e-02 9.233e-03 1.285e-02 1.524e-03 1.496e+01
 2.353e+01 9.578e+01 6.865e+02 1.199e-01 1.346e-01 1.742e-01 9.077e-02
 2.518e-01 6.960e-02], Class Predicted = 1
 X211 = [1.091e+01 1.235e+01 6.914e+01 3.637e+02 8.518e-02 4.721e-02 1.236e-02
 1.369e-02 1.449e-01 6.031e-02 1.753e-01 1.027e+00 1.267e+00 1.109e+01
 3.478e-03 1.221e-02 1.072e-02 9.393e-03 2.941e-02 3.428e-03 1.137e+01
 1.482e+01 7.242e+01 3.922e+02 9.312e-02 7.506e-02 2.884e-02 3.194e-02
 2.143e-01 6.643e-02], Class Predicted = 1
 X212 = [1.066e+01 1.515e+01 6.749e+01 3.496e+02 8.792e-02 4.302e-02 0.000e+00
 0.000e+00 1.928e-01 5.975e-02 3.309e-01 1.925e+00 2.155e+00 2.198e+01
 8.713e-03 1.017e-02 0.000e+00 0.000e+00 3.265e-02 1.002e-03 1.154e+01
 1.920e+01 7.320e+01 4.083e+02 1.076e-01 6.791e-02 0.000e+00 0.000e+00
 2.710e-01 6.164e-02], Class Predicted = 1
 X213 = [2.073e+01 3.112e+01 1.357e+02 1.419e+03 9.469e-02 1.143e-01 1.367e-01
 8.646e-02 1.769e-01 5.674e-02 1.172e+00 1.617e+00 7.749e+00 1.997e+02
 4.551e-03 1.478e-02 2.143e-02 9.280e-03 1.367e-02 2.299e-03 3.249e+01
 4.716e+01 2.140e+02 3.432e+03 1.401e-01 2.644e-01 3.442e-01 1.659e-01
 2.868e-01 8.218e-02], Class Predicted = 0
 X214 = [1.128e+01 1.339e+01 7.300e+01 3.848e+02 1.164e-01 1.136e-01 4.635e-02
 4.796e-02 1.771e-01 6.072e-02 3.384e-01 1.343e+00 1.851e+00 2.633e+01
 1.127e-02 3.498e-02 2.187e-02 1.965e-02 1.580e-02 3.442e-03 1.192e+01
 1.577e+01 7.653e+01 4.340e+02 1.367e-01 1.822e-01 8.669e-02 8.611e-02
 2.102e-01 6.784e-02], Class Predicted = 1
 X215 = [1.174e+01 1.469e+01 7.631e+01 4.260e+02 8.099e-02 9.661e-02 6.726e-02
 2.639e-02 1.499e-01 6.758e-02 1.924e-01 6.417e-01 1.345e+00 1.304e+01
 6.982e-03 3.916e-02 4.017e-02 1.528e-02 2.260e-02 6.822e-03 1.245e+01
 1.760e+01 8.125e+01 4.738e+02 1.073e-01 2.793e-01 2.690e-01 1.056e-01
 2.604e-01 9.879e-02], Class Predicted = 1
 X216 = [1.359e+01 2.184e+01 8.716e+01 5.610e+02 7.956e-02 8.259e-02 4.072e-02
 2.142e-02 1.635e-01 5.859e-02 3.380e-01 1.916e+00 2.591e+00 2.676e+01
 5.436e-03 2.406e-02 3.099e-02 9.919e-03 2.030e-02 3.009e-03 1.480e+01
 3.004e+01 9.766e+01 6.615e+02 1.005e-01 1.730e-01 1.453e-01 6.189e-02
 2.446e-01 7.024e-02], Class Predicted = 1
 X217 = [1.426e+01 1.817e+01 9.122e+01 6.331e+02 6.576e-02 5.220e-02 2.475e-02
 1.374e-02 1.635e-01 5.586e-02 2.300e-01 6.690e-01 1.661e+00 2.056e+01

3.169e-03 1.377e-02 1.079e-02 5.243e-03 1.103e-02 1.957e-03 1.622e+01
 2.526e+01 1.058e+02 8.197e+02 9.445e-02 2.167e-01 1.565e-01 7.530e-02
 2.636e-01 7.676e-02], Class Predicted = 1
 X218 = [1.220e+01 1.521e+01 7.801e+01 4.579e+02 8.673e-02 6.545e-02 1.994e-02
 1.692e-02 1.638e-01 6.129e-02 2.575e-01 8.073e-01 1.959e+00 1.901e+01
 5.403e-03 1.418e-02 1.051e-02 5.142e-03 1.333e-02 2.065e-03 1.375e+01
 2.138e+01 9.111e+01 5.831e+02 1.256e-01 1.928e-01 1.167e-01 5.556e-02
 2.661e-01 7.961e-02], Class Predicted = 1
 X219 = [1.203e+01 1.793e+01 7.609e+01 4.460e+02 7.683e-02 3.892e-02 1.546e-03
 5.592e-03 1.382e-01 6.070e-02 2.335e-01 9.097e-01 1.466e+00 1.697e+01
 4.729e-03 6.887e-03 1.184e-03 3.951e-03 1.466e-02 1.755e-03 1.307e+01
 2.225e+01 8.274e+01 5.234e+02 1.013e-01 7.390e-02 7.732e-03 2.796e-02
 2.171e-01 7.037e-02], Class Predicted = 1
 X220 = [1.189e+01 2.117e+01 7.639e+01 4.338e+02 9.773e-02 8.120e-02 2.555e-02
 2.179e-02 2.019e-01 6.290e-02 2.747e-01 1.203e+00 1.930e+00 1.953e+01
 9.895e-03 3.053e-02 1.630e-02 9.276e-03 2.258e-02 2.272e-03 1.305e+01
 2.721e+01 8.509e+01 5.229e+02 1.426e-01 2.187e-01 1.164e-01 8.263e-02
 3.075e-01 7.351e-02], Class Predicted = 1
 X221 = [1.311e+01 1.556e+01 8.721e+01 5.302e+02 1.398e-01 1.765e-01 2.071e-01
 9.601e-02 1.925e-01 7.692e-02 3.908e-01 9.238e-01 2.410e+00 3.466e+01
 7.162e-03 2.912e-02 5.473e-02 1.388e-02 1.547e-02 7.098e-03 1.631e+01
 2.240e+01 1.064e+02 8.272e+02 1.862e-01 4.099e-01 6.376e-01 1.986e-01
 3.147e-01 1.405e-01], Class Predicted = 0
 X222 = [1.468e+01 2.013e+01 9.474e+01 6.845e+02 9.867e-02 7.200e-02 7.395e-02
 5.259e-02 1.586e-01 5.922e-02 4.727e-01 1.240e+00 3.195e+00 4.540e+01
 5.718e-03 1.162e-02 1.998e-02 1.109e-02 1.410e-02 2.085e-03 1.907e+01
 3.088e+01 1.234e+02 1.138e+03 1.464e-01 1.871e-01 2.914e-01 1.609e-01
 3.029e-01 8.216e-02], Class Predicted = 0
 X223 = [1.240e+01 1.768e+01 8.147e+01 4.678e+02 1.054e-01 1.316e-01 7.741e-02
 2.799e-02 1.811e-01 7.102e-02 1.767e-01 1.460e+00 2.204e+00 1.543e+01
 1.000e-02 3.295e-02 4.861e-02 1.167e-02 2.187e-02 6.005e-03 1.288e+01
 2.291e+01 8.961e+01 5.158e+02 1.450e-01 2.629e-01 2.403e-01 7.370e-02
 2.556e-01 9.359e-02], Class Predicted = 1
 X224 = [1.145e+01 2.097e+01 7.381e+01 4.015e+02 1.102e-01 9.362e-02 4.591e-02
 2.233e-02 1.842e-01 7.005e-02 3.251e-01 2.174e+00 2.077e+00 2.462e+01
 1.037e-02 1.706e-02 2.586e-02 7.506e-03 1.816e-02 3.976e-03 1.311e+01
 3.216e+01 8.453e+01 5.251e+02 1.557e-01 1.676e-01 1.755e-01 6.127e-02
 2.762e-01 8.851e-02], Class Predicted = 1
 X225 = [1.729e+01 2.213e+01 1.144e+02 9.478e+02 8.999e-02 1.273e-01 9.697e-02
 7.507e-02 2.108e-01 5.464e-02 8.348e-01 1.633e+00 6.146e+00 9.094e+01
 6.717e-03 5.981e-02 4.638e-02 2.149e-02 2.747e-02 5.838e-03 2.039e+01
 2.724e+01 1.379e+02 1.295e+03 1.134e-01 2.867e-01 2.298e-01 1.528e-01
 3.067e-01 7.484e-02], Class Predicted = 0
 X226 = [1.330e+01 2.157e+01 8.524e+01 5.461e+02 8.582e-02 6.373e-02 3.344e-02
 2.424e-02 1.815e-01 5.696e-02 2.621e-01 1.539e+00 2.028e+00 2.098e+01
 5.498e-03 2.045e-02 1.795e-02 6.399e-03 1.829e-02 1.956e-03 1.420e+01
 2.920e+01 9.294e+01 6.212e+02 1.140e-01 1.667e-01 1.212e-01 5.614e-02
 2.637e-01 6.658e-02], Class Predicted = 1
 X227 = [1.263e+01 2.076e+01 8.215e+01 4.804e+02 9.933e-02 1.209e-01 1.065e-01
 6.021e-02 1.735e-01 7.070e-02 3.424e-01 1.803e+00 2.711e+00 2.048e+01
 1.291e-02 4.042e-02 5.101e-02 2.295e-02 2.144e-02 5.891e-03 1.333e+01
 2.547e+01 8.900e+01 5.274e+02 1.287e-01 2.250e-01 2.216e-01 1.105e-01
 2.226e-01 8.486e-02], Class Predicted = 1
 X228 = [1.492e+01 1.493e+01 9.645e+01 6.869e+02 8.098e-02 8.549e-02 5.539e-02
 3.221e-02 1.687e-01 5.669e-02 2.446e-01 4.334e-01 1.826e+00 2.331e+01
 3.271e-03 1.770e-02 2.310e-02 8.399e-03 1.148e-02 2.379e-03 1.718e+01
 1.822e+01 1.120e+02 9.066e+02 1.065e-01 2.791e-01 3.151e-01 1.147e-01
 2.688e-01 8.273e-02], Class Predicted = 1
 X229 = [2.742e+01 2.627e+01 1.869e+02 2.501e+03 1.084e-01 1.988e-01 3.635e-01
 1.689e-01 2.061e-01 5.623e-02 2.547e+00 1.306e+00 1.865e+01 5.422e+02
 7.650e-03 5.374e-02 8.055e-02 2.598e-02 1.697e-02 4.558e-03 3.604e+01
 3.137e+01 2.512e+02 4.254e+03 1.357e-01 4.256e-01 6.833e-01 2.625e-01
 2.641e-01 7.427e-02], Class Predicted = 0
 X230 = [1.390e+01 1.662e+01 8.897e+01 5.994e+02 6.828e-02 5.319e-02 2.224e-02
 1.339e-02 1.813e-01 5.536e-02 1.555e-01 5.762e-01 1.392e+00 1.403e+01
 3.308e-03 1.315e-02 9.904e-03 4.832e-03 1.316e-02 2.095e-03 1.514e+01
 2.180e+01 1.012e+02 7.189e+02 9.384e-02 2.006e-01 1.384e-01 6.222e-02
 2.679e-01 7.698e-02], Class Predicted = 1
 X231 = [1.575e+01 2.025e+01 1.026e+02 7.613e+02 1.025e-01 1.204e-01 1.147e-01

6.462e-02 1.935e-01 6.303e-02 3.473e-01 9.209e-01 2.244e+00 3.219e+01
 4.766e-03 2.374e-02 2.384e-02 8.637e-03 1.772e-02 3.131e-03 1.956e+01
 3.029e+01 1.259e+02 1.088e+03 1.552e-01 4.480e-01 3.976e-01 1.479e-01
 3.993e-01 1.064e-01], Class Predicted = 0
 X232 = [1.017e+01 1.488e+01 6.455e+01 3.119e+02 1.134e-01 8.061e-02 1.084e-02
 1.290e-02 2.743e-01 6.960e-02 5.158e-01 1.441e+00 3.312e+00 3.462e+01
 7.514e-03 1.099e-02 7.665e-03 8.193e-03 4.183e-02 5.953e-03 1.102e+01
 1.745e+01 6.986e+01 3.686e+02 1.275e-01 9.866e-02 2.168e-02 2.579e-02
 3.557e-01 8.020e-02], Class Predicted = 1
 X233 = [1.440e+01 2.699e+01 9.225e+01 6.461e+02 6.995e-02 5.223e-02 3.476e-02
 1.737e-02 1.707e-01 5.433e-02 2.315e-01 9.112e-01 1.727e+00 2.052e+01
 5.356e-03 1.679e-02 1.971e-02 6.370e-03 1.414e-02 1.892e-03 1.540e+01
 3.198e+01 1.004e+02 7.346e+02 1.017e-01 1.460e-01 1.472e-01 5.563e-02
 2.345e-01 6.464e-02], Class Predicted = 1
 X234 = [1.234e+01 2.222e+01 7.985e+01 4.645e+02 1.012e-01 1.015e-01 5.370e-02
 2.822e-02 1.551e-01 6.761e-02 2.949e-01 1.656e+00 1.955e+00 2.155e+01
 1.134e-02 3.175e-02 3.125e-02 1.135e-02 1.879e-02 5.348e-03 1.358e+01
 2.868e+01 8.736e+01 5.530e+02 1.452e-01 2.338e-01 1.688e-01 8.194e-02
 2.268e-01 9.082e-02], Class Predicted = 1
 X235 = [1.611e+01 1.805e+01 1.051e+02 8.130e+02 9.721e-02 1.137e-01 9.447e-02
 5.943e-02 1.861e-01 6.248e-02 7.049e-01 1.332e+00 4.533e+00 7.408e+01
 6.770e-03 1.938e-02 3.067e-02 1.167e-02 1.875e-02 3.434e-03 1.992e+01
 2.527e+01 1.290e+02 1.233e+03 1.314e-01 2.236e-01 2.802e-01 1.216e-01
 2.792e-01 8.158e-02], Class Predicted = 0
 X236 = [9.504e+00 1.244e+01 6.034e+01 2.739e+02 1.024e-01 6.492e-02 2.956e-02
 2.076e-02 1.815e-01 6.905e-02 2.773e-01 9.768e-01 1.909e+00 1.570e+01
 9.606e-03 1.432e-02 1.985e-02 1.421e-02 2.027e-02 2.968e-03 1.023e+01
 1.566e+01 6.513e+01 3.149e+02 1.324e-01 1.148e-01 8.867e-02 6.227e-02
 2.450e-01 7.773e-02], Class Predicted = 1
 X237 = [2.171e+01 1.725e+01 1.409e+02 1.546e+03 9.384e-02 8.562e-02 1.168e-01
 8.465e-02 1.717e-01 5.054e-02 1.207e+00 1.051e+00 7.733e+00 2.241e+02
 5.568e-03 1.112e-02 2.096e-02 1.197e-02 1.263e-02 1.803e-03 3.075e+01
 2.644e+01 1.995e+02 3.143e+03 1.363e-01 1.628e-01 2.861e-01 1.820e-01
 2.510e-01 6.494e-02], Class Predicted = 0
 X238 = [1.049e+01 1.861e+01 6.686e+01 3.343e+02 1.068e-01 6.678e-02 2.297e-02
 1.780e-02 1.482e-01 6.600e-02 1.485e-01 1.563e+00 1.035e+00 1.008e+01
 8.875e-03 9.362e-03 1.808e-02 9.199e-03 1.791e-02 3.317e-03 1.106e+01
 2.454e+01 7.076e+01 3.754e+02 1.413e-01 1.044e-01 8.423e-02 6.528e-02
 2.213e-01 7.842e-02], Class Predicted = 1
 X239 = [1.968e+01 2.168e+01 1.299e+02 1.194e+03 9.797e-02 1.339e-01 1.863e-01
 1.103e-01 2.082e-01 5.715e-02 6.226e-01 2.284e+00 5.173e+00 6.766e+01
 4.756e-03 3.368e-02 4.345e-02 1.806e-02 3.756e-02 3.288e-03 2.275e+01
 3.466e+01 1.576e+02 1.540e+03 1.218e-01 3.458e-01 4.734e-01 2.255e-01
 4.045e-01 7.918e-02], Class Predicted = 0
 X240 = [1.181e+01 1.739e+01 7.527e+01 4.289e+02 1.007e-01 5.562e-02 2.353e-02
 1.553e-02 1.718e-01 5.780e-02 1.859e-01 1.926e+00 1.011e+00 1.447e+01
 7.831e-03 8.776e-03 1.556e-02 6.240e-03 3.139e-02 1.988e-03 1.257e+01
 2.648e+01 7.957e+01 4.895e+02 1.356e-01 1.000e-01 8.803e-02 4.306e-02
 3.200e-01 6.576e-02], Class Predicted = 1
 X241 = [9.676e+00 1.314e+01 6.412e+01 2.725e+02 1.255e-01 2.204e-01 1.188e-01
 7.038e-02 2.057e-01 9.575e-02 2.744e-01 1.390e+00 1.787e+00 1.767e+01
 2.177e-02 4.888e-02 5.189e-02 1.450e-02 2.632e-02 1.148e-02 1.060e+01
 1.804e+01 6.947e+01 3.281e+02 2.006e-01 3.663e-01 2.913e-01 1.075e-01
 2.848e-01 1.364e-01], Class Predicted = 1
 X242 = [1.362e+01 2.323e+01 8.719e+01 5.732e+02 9.246e-02 6.747e-02 2.974e-02
 2.443e-02 1.664e-01 5.801e-02 3.460e-01 1.336e+00 2.066e+00 3.124e+01
 5.868e-03 2.099e-02 2.021e-02 9.064e-03 2.087e-02 2.583e-03 1.535e+01
 2.909e+01 9.758e+01 7.298e+02 1.216e-01 1.517e-01 1.049e-01 7.174e-02
 2.642e-01 6.953e-02], Class Predicted = 1
 X243 = [1.317e+01 2.181e+01 8.542e+01 5.315e+02 9.714e-02 1.047e-01 8.259e-02
 5.252e-02 1.746e-01 6.177e-02 1.938e-01 6.123e-01 1.334e+00 1.449e+01
 3.350e-03 1.384e-02 1.452e-02 6.853e-03 1.113e-02 1.720e-03 1.623e+01
 2.989e+01 1.055e+02 7.407e+02 1.503e-01 3.904e-01 3.728e-01 1.607e-01
 3.693e-01 9.618e-02], Class Predicted = 1
 X244 = [1.453e+01 1.398e+01 9.386e+01 6.442e+02 1.099e-01 9.242e-02 6.895e-02
 6.495e-02 1.650e-01 6.121e-02 3.060e-01 7.213e-01 2.143e+00 2.570e+01
 6.133e-03 1.251e-02 1.615e-02 1.136e-02 2.207e-02 3.563e-03 1.580e+01
 1.693e+01 1.031e+02 7.499e+02 1.347e-01 1.478e-01 1.373e-01 1.069e-01
 2.606e-01 7.810e-02], Class Predicted = 1

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X245 = [1.249e+01 1.685e+01 7.919e+01 4.816e+02 8.511e-02 3.834e-02 4.473e-03
6.423e-03 1.215e-01 5.673e-02 1.716e-01 7.151e-01 1.047e+00 1.269e+01
4.928e-03 3.012e-03 2.620e-03 3.390e-03 1.393e-02 1.344e-03 1.334e+01
1.971e+01 8.448e+01 5.442e+02 1.104e-01 4.953e-02 1.938e-02 2.784e-02
1.917e-01 6.174e-02], Class Predicted = 1
X246 = [1.377e+01 1.327e+01 8.806e+01 5.827e+02 9.198e-02 6.221e-02 1.063e-02
1.917e-02 1.592e-01 5.912e-02 2.191e-01 6.946e-01 1.479e+00 1.774e+01
4.348e-03 8.153e-03 4.272e-03 6.829e-03 2.154e-02 1.802e-03 1.467e+01
1.693e+01 9.417e+01 6.611e+02 1.170e-01 1.072e-01 3.732e-02 5.802e-02
2.823e-01 6.794e-02], Class Predicted = 1
X247 = [1.486e+01 2.321e+01 1.004e+02 6.714e+02 1.044e-01 1.980e-01 1.697e-01
8.878e-02 1.737e-01 6.672e-02 2.796e-01 9.622e-01 3.591e+00 2.520e+01
8.081e-03 5.122e-02 5.551e-02 1.883e-02 2.545e-02 4.312e-03 1.608e+01
2.778e+01 1.186e+02 7.847e+02 1.316e-01 4.648e-01 4.589e-01 1.727e-01
3.000e-01 8.701e-02], Class Predicted = 0
X248 = [1.234e+01 2.686e+01 8.115e+01 4.774e+02 1.034e-01 1.353e-01 1.085e-01
4.562e-02 1.943e-01 6.937e-02 4.053e-01 1.809e+00 2.642e+00 3.444e+01
9.098e-03 3.845e-02 3.763e-02 1.321e-02 1.878e-02 5.672e-03 1.565e+01
3.934e+01 1.017e+02 7.689e+02 1.785e-01 4.706e-01 4.425e-01 1.459e-01
3.215e-01 1.205e-01], Class Predicted = 1
X249 = [1.346e+01 2.821e+01 8.589e+01 5.621e+02 7.517e-02 4.726e-02 1.271e-02
1.117e-02 1.421e-01 5.763e-02 1.689e-01 1.150e+00 1.400e+00 1.491e+01
4.942e-03 1.203e-02 7.508e-03 5.179e-03 1.442e-02 1.684e-03 1.469e+01
3.563e+01 9.711e+01 6.806e+02 1.108e-01 1.457e-01 7.934e-02 5.781e-02
2.694e-01 7.061e-02], Class Predicted = 1
X250 = [1.459e+01 2.268e+01 9.639e+01 6.571e+02 8.473e-02 1.330e-01 1.029e-01
3.736e-02 1.454e-01 6.147e-02 2.254e-01 1.108e+00 2.224e+00 1.954e+01
4.242e-03 4.639e-02 6.578e-02 1.606e-02 1.638e-02 4.406e-03 1.548e+01
2.727e+01 1.059e+02 7.335e+02 1.026e-01 3.171e-01 3.662e-01 1.105e-01
2.258e-01 8.004e-02], Class Predicted = 1
X251 = [9.465e+00 2.101e+01 6.011e+01 2.694e+02 1.044e-01 7.773e-02 2.172e-02
1.504e-02 1.717e-01 6.899e-02 2.351e-01 2.011e+00 1.660e+00 1.420e+01
1.052e-02 1.755e-02 1.714e-02 9.333e-03 2.279e-02 4.237e-03 1.041e+01
3.156e+01 6.703e+01 3.307e+02 1.548e-01 1.664e-01 9.412e-02 6.517e-02
2.878e-01 9.211e-02], Class Predicted = 1
X252 = [1.385e+01 1.518e+01 8.899e+01 5.874e+02 9.516e-02 7.688e-02 4.479e-02
3.711e-02 2.110e-01 5.853e-02 2.479e-01 9.195e-01 1.830e+00 1.941e+01
4.235e-03 1.541e-02 1.457e-02 1.043e-02 1.528e-02 1.593e-03 1.498e+01
2.174e+01 9.837e+01 6.700e+02 1.185e-01 1.724e-01 1.456e-01 9.993e-02
2.955e-01 6.912e-02], Class Predicted = 1
X253 = [1.705e+01 1.908e+01 1.134e+02 8.950e+02 1.141e-01 1.572e-01 1.910e-01
1.090e-01 2.131e-01 6.325e-02 2.959e-01 6.790e-01 2.153e+00 3.198e+01
5.532e-03 2.008e-02 3.055e-02 1.384e-02 1.177e-02 2.336e-03 1.959e+01
2.489e+01 1.335e+02 1.189e+03 1.703e-01 3.934e-01 5.018e-01 2.543e-01
3.109e-01 9.061e-02], Class Predicted = 0
X254 = [1.831e+01 2.058e+01 1.208e+02 1.052e+03 1.068e-01 1.248e-01 1.569e-01
9.451e-02 1.860e-01 5.941e-02 5.449e-01 9.225e-01 3.218e+00 6.736e+01
6.176e-03 1.877e-02 2.913e-02 1.046e-02 1.559e-02 2.725e-03 2.186e+01
2.620e+01 1.422e+02 1.493e+03 1.492e-01 2.536e-01 3.759e-01 1.510e-01
3.074e-01 7.863e-02], Class Predicted = 0
X255 = [1.504e+01 1.674e+01 9.873e+01 6.894e+02 9.883e-02 1.364e-01 7.721e-02
6.142e-02 1.668e-01 6.869e-02 3.720e-01 8.423e-01 2.304e+00 3.484e+01
4.123e-03 1.819e-02 1.996e-02 1.004e-02 1.055e-02 3.237e-03 1.676e+01
2.043e+01 1.097e+02 8.569e+02 1.135e-01 2.176e-01 1.856e-01 1.018e-01
2.177e-01 8.549e-02], Class Predicted = 1
X256 = [1.044e+01 1.546e+01 6.662e+01 3.296e+02 1.053e-01 7.722e-02 6.643e-03
1.216e-02 1.788e-01 6.450e-02 1.913e-01 9.027e-01 1.208e+00 1.186e+01
6.513e-03 8.061e-03 2.817e-03 4.972e-03 1.502e-02 2.821e-03 1.152e+01
1.980e+01 7.347e+01 3.954e+02 1.341e-01 1.153e-01 2.639e-02 4.464e-02
2.615e-01 8.269e-02], Class Predicted = 1
X257 = [1.882e+01 2.197e+01 1.237e+02 1.110e+03 1.018e-01 1.389e-01 1.594e-01
8.744e-02 1.943e-01 6.132e-02 8.191e-01 1.931e+00 4.493e+00 1.039e+02
8.074e-03 4.088e-02 5.321e-02 1.834e-02 2.383e-02 4.515e-03 2.266e+01
3.093e+01 1.453e+02 1.603e+03 1.390e-01 3.463e-01 3.912e-01 1.708e-01
3.007e-01 8.314e-02], Class Predicted = 0
X258 = [1.364e+01 1.634e+01 8.721e+01 5.718e+02 7.685e-02 6.059e-02 1.857e-02
1.723e-02 1.353e-01 5.953e-02 1.872e-01 9.234e-01 1.449e+00 1.455e+01
4.477e-03 1.177e-02 1.079e-02 7.956e-03 1.325e-02 2.551e-03 1.467e+01
2.319e+01 9.608e+01 6.567e+02 1.089e-01 1.582e-01 1.050e-01 8.586e-02

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2.346e-01 8.025e-02], Class Predicted = 1
 X259 = [1.487e+01 1.667e+01 9.864e+01 6.825e+02 1.162e-01 1.649e-01 1.690e-01
 8.923e-02 2.157e-01 6.768e-02 4.266e-01 9.489e-01 2.989e+00 4.118e+01
 6.985e-03 2.563e-02 3.011e-02 1.271e-02 1.602e-02 3.884e-03 1.881e+01
 2.737e+01 1.271e+02 1.095e+03 1.878e-01 4.480e-01 4.704e-01 2.027e-01
 3.585e-01 1.065e-01], Class Predicted = 0
 X260 = [1.624e+01 1.877e+01 1.088e+02 8.051e+02 1.066e-01 1.802e-01 1.948e-01
 9.052e-02 1.876e-01 6.684e-02 2.873e-01 9.173e-01 2.464e+00 2.809e+01
 4.563e-03 3.481e-02 3.872e-02 1.209e-02 1.388e-02 4.081e-03 1.855e+01
 2.509e+01 1.269e+02 1.031e+03 1.365e-01 4.706e-01 5.026e-01 1.732e-01
 2.770e-01 1.063e-01], Class Predicted = 0
 X261 = [1.317e+01 1.866e+01 8.598e+01 5.346e+02 1.158e-01 1.231e-01 1.226e-01
 7.340e-02 2.128e-01 6.777e-02 2.871e-01 8.937e-01 1.897e+00 2.425e+01
 6.532e-03 2.336e-02 2.905e-02 1.215e-02 1.743e-02 3.643e-03 1.567e+01
 2.795e+01 1.028e+02 7.594e+02 1.786e-01 4.166e-01 5.006e-01 2.088e-01
 3.900e-01 1.179e-01], Class Predicted = 0
 X262 = [1.231e+01 1.652e+01 7.919e+01 4.709e+02 9.172e-02 6.829e-02 3.372e-02
 2.272e-02 1.720e-01 5.914e-02 2.505e-01 1.025e+00 1.740e+00 1.968e+01
 4.854e-03 1.819e-02 1.826e-02 7.965e-03 1.386e-02 2.304e-03 1.411e+01
 2.321e+01 8.971e+01 6.111e+02 1.176e-01 1.843e-01 1.703e-01 8.660e-02
 2.618e-01 7.609e-02], Class Predicted = 1
 X263 = [9.738e+00 1.197e+01 6.124e+01 2.885e+02 9.250e-02 4.102e-02 0.000e+00
 0.000e+00 1.903e-01 6.422e-02 1.988e-01 4.960e-01 1.218e+00 1.226e+01
 6.040e-03 5.656e-03 0.000e+00 0.000e+00 2.277e-02 3.220e-03 1.062e+01
 1.410e+01 6.653e+01 3.429e+02 1.234e-01 7.204e-02 0.000e+00 0.000e+00
 3.105e-01 8.151e-02], Class Predicted = 1
 X264 = [1.398e+01 1.962e+01 9.112e+01 5.995e+02 1.060e-01 1.133e-01 1.126e-01
 6.463e-02 1.669e-01 6.544e-02 2.208e-01 9.533e-01 1.602e+00 1.885e+01
 5.314e-03 1.791e-02 2.185e-02 9.567e-03 1.223e-02 2.846e-03 1.704e+01
 3.080e+01 1.139e+02 8.693e+02 1.613e-01 3.568e-01 4.069e-01 1.827e-01
 3.179e-01 1.055e-01], Class Predicted = 1
 X265 = [1.635e+01 2.329e+01 1.090e+02 8.404e+02 9.742e-02 1.497e-01 1.811e-01
 8.773e-02 2.175e-01 6.218e-02 4.312e-01 1.022e+00 2.972e+00 4.550e+01
 5.635e-03 3.917e-02 6.072e-02 1.656e-02 3.197e-02 4.085e-03 1.938e+01
 3.103e+01 1.293e+02 1.165e+03 1.415e-01 4.665e-01 7.087e-01 2.248e-01
 4.824e-01 9.614e-02], Class Predicted = 0
 X266 = [1.382e+01 2.449e+01 9.233e+01 5.959e+02 1.162e-01 1.681e-01 1.357e-01
 6.759e-02 2.275e-01 7.237e-02 4.751e-01 1.528e+00 2.974e+00 3.905e+01
 9.680e-03 3.856e-02 3.476e-02 1.616e-02 2.434e-02 6.995e-03 1.601e+01
 3.294e+01 1.060e+02 7.880e+02 1.794e-01 3.966e-01 3.381e-01 1.521e-01
 3.651e-01 1.183e-01], Class Predicted = 0
 X267 = [1.512e+01 1.668e+01 9.878e+01 7.166e+02 8.876e-02 9.588e-02 7.550e-02
 4.079e-02 1.594e-01 5.986e-02 2.711e-01 3.621e-01 1.974e+00 2.644e+01
 5.472e-03 1.919e-02 2.039e-02 8.260e-03 1.523e-02 2.881e-03 1.777e+01
 2.024e+01 1.177e+02 9.895e+02 1.491e-01 3.331e-01 3.327e-01 1.252e-01
 3.415e-01 9.740e-02], Class Predicted = 1
 X268 = [1.916e+01 2.660e+01 1.262e+02 1.138e+03 1.020e-01 1.453e-01 1.921e-01
 9.664e-02 1.902e-01 6.220e-02 6.361e-01 1.001e+00 4.321e+00 6.965e+01
 7.392e-03 2.449e-02 3.988e-02 1.293e-02 1.435e-02 3.446e-03 2.372e+01
 3.590e+01 1.598e+02 1.724e+03 1.782e-01 3.841e-01 5.754e-01 1.872e-01
 3.258e-01 9.720e-02], Class Predicted = 0
 X269 = [1.578e+01 1.789e+01 1.036e+02 7.810e+02 9.710e-02 1.292e-01 9.954e-02
 6.606e-02 1.842e-01 6.082e-02 5.058e-01 9.849e-01 3.564e+00 5.416e+01
 5.771e-03 4.061e-02 2.791e-02 1.282e-02 2.008e-02 4.144e-03 2.042e+01
 2.728e+01 1.365e+02 1.299e+03 1.396e-01 5.609e-01 3.965e-01 1.810e-01
 3.792e-01 1.048e-01], Class Predicted = 0
 X270 = [1.185e+01 1.746e+01 7.554e+01 4.327e+02 8.372e-02 5.642e-02 2.688e-02
 2.280e-02 1.875e-01 5.715e-02 2.070e-01 1.238e+00 1.234e+00 1.388e+01
 7.595e-03 1.500e-02 1.412e-02 8.578e-03 1.792e-02 1.784e-03 1.306e+01
 2.575e+01 8.435e+01 5.178e+02 1.369e-01 1.758e-01 1.316e-01 9.140e-02
 3.101e-01 7.007e-02], Class Predicted = 1
 X271 = [1.462e+01 2.402e+01 9.457e+01 6.627e+02 8.974e-02 8.606e-02 3.102e-02
 2.957e-02 1.685e-01 5.866e-02 3.721e-01 1.111e+00 2.279e+00 3.376e+01
 4.868e-03 1.818e-02 1.121e-02 8.606e-03 2.085e-02 2.893e-03 1.611e+01
 2.911e+01 1.029e+02 8.037e+02 1.115e-01 1.766e-01 9.189e-02 6.946e-02
 2.522e-01 7.246e-02], Class Predicted = 1
 X272 = [1.364e+01 1.560e+01 8.738e+01 5.753e+02 9.423e-02 6.630e-02 4.705e-02
 3.731e-02 1.717e-01 5.660e-02 3.242e-01 6.612e-01 1.996e+00 2.719e+01
 6.470e-03 1.248e-02 1.810e-02 1.103e-02 1.898e-02 1.794e-03 1.485e+01

1.905e+01 9.411e+01 6.834e+02 1.278e-01 1.291e-01 1.533e-01 9.222e-02
 2.530e-01 6.510e-02], Class Predicted = 1
 X273 = [1.865e+01 1.760e+01 1.237e+02 1.076e+03 1.099e-01 1.686e-01 1.974e-01
 1.009e-01 1.907e-01 6.049e-02 6.289e-01 6.633e-01 4.293e+00 7.156e+01
 6.294e-03 3.994e-02 5.554e-02 1.695e-02 2.428e-02 3.535e-03 2.282e+01
 2.132e+01 1.506e+02 1.567e+03 1.679e-01 5.090e-01 7.345e-01 2.378e-01
 3.799e-01 9.185e-02], Class Predicted = 0
 X274 = [2.463e+01 2.160e+01 1.655e+02 1.841e+03 1.030e-01 2.106e-01 2.310e-01
 1.471e-01 1.991e-01 6.739e-02 9.915e-01 9.004e-01 7.050e+00 1.399e+02
 4.989e-03 3.212e-02 3.571e-02 1.597e-02 1.879e-02 4.760e-03 2.992e+01
 2.693e+01 2.057e+02 2.642e+03 1.342e-01 4.188e-01 4.658e-01 2.475e-01
 3.157e-01 9.671e-02], Class Predicted = 0
 X275 = [1.190e+01 1.465e+01 7.811e+01 4.328e+02 1.152e-01 1.296e-01 3.710e-02
 3.003e-02 1.995e-01 7.839e-02 3.962e-01 6.538e-01 3.021e+00 2.503e+01
 1.017e-02 4.741e-02 2.789e-02 1.110e-02 3.127e-02 9.423e-03 1.315e+01
 1.651e+01 8.626e+01 5.096e+02 1.424e-01 2.517e-01 9.420e-02 6.042e-02
 2.727e-01 1.036e-01], Class Predicted = 1
 X276 = [1.345e+01 1.830e+01 8.660e+01 5.551e+02 1.022e-01 8.165e-02 3.974e-02
 2.780e-02 1.638e-01 5.710e-02 2.950e-01 1.373e+00 2.099e+00 2.522e+01
 5.884e-03 1.491e-02 1.872e-02 9.366e-03 1.884e-02 1.817e-03 1.510e+01
 2.594e+01 9.759e+01 6.994e+02 1.339e-01 1.751e-01 1.381e-01 7.911e-02
 2.678e-01 6.603e-02], Class Predicted = 1
 X277 = [1.246e+01 1.989e+01 8.043e+01 4.713e+02 8.451e-02 1.014e-01 6.830e-02
 3.099e-02 1.781e-01 6.249e-02 3.642e-01 1.040e+00 2.579e+00 2.832e+01
 6.530e-03 3.369e-02 4.712e-02 1.403e-02 2.740e-02 4.651e-03 1.346e+01
 2.307e+01 8.813e+01 5.513e+02 1.050e-01 2.158e-01 1.904e-01 7.625e-02
 2.685e-01 7.764e-02], Class Predicted = 1
 X278 = [1.746e+01 3.928e+01 1.134e+02 9.206e+02 9.812e-02 1.298e-01 1.417e-01
 8.811e-02 1.809e-01 5.966e-02 5.366e-01 8.561e-01 3.002e+00 4.900e+01
 4.860e-03 2.785e-02 2.602e-02 1.374e-02 1.226e-02 2.759e-03 2.251e+01
 4.487e+01 1.412e+02 1.408e+03 1.365e-01 3.735e-01 3.241e-01 2.066e-01
 2.853e-01 8.496e-02], Class Predicted = 0
 X279 = [1.154e+01 1.444e+01 7.465e+01 4.029e+02 9.984e-02 1.120e-01 6.737e-02
 2.594e-02 1.818e-01 6.782e-02 2.784e-01 1.768e+00 1.628e+00 2.086e+01
 1.215e-02 4.112e-02 5.553e-02 1.494e-02 1.840e-02 5.512e-03 1.226e+01
 1.968e+01 7.878e+01 4.578e+02 1.345e-01 2.118e-01 1.797e-01 6.918e-02
 2.329e-01 8.134e-02], Class Predicted = 1
 X280 = [1.822e+01 1.887e+01 1.187e+02 1.027e+03 9.746e-02 1.117e-01 1.130e-01
 7.950e-02 1.807e-01 5.664e-02 4.041e-01 5.503e-01 2.547e+00 4.890e+01
 4.821e-03 1.659e-02 2.408e-02 1.143e-02 1.275e-02 2.451e-03 2.184e+01
 2.500e+01 1.409e+02 1.485e+03 1.434e-01 2.763e-01 3.853e-01 1.776e-01
 2.812e-01 8.198e-02], Class Predicted = 0
 X281 = [1.245e+01 1.570e+01 8.257e+01 4.771e+02 1.278e-01 1.700e-01 1.578e-01
 8.089e-02 2.087e-01 7.613e-02 3.345e-01 8.902e-01 2.217e+00 2.719e+01
 7.510e-03 3.345e-02 3.672e-02 1.137e-02 2.165e-02 5.082e-03 1.547e+01
 2.375e+01 1.034e+02 7.416e+02 1.791e-01 5.249e-01 5.355e-01 1.741e-01
 3.985e-01 1.244e-01], Class Predicted = 0
 X282 = [9.042e+00 1.890e+01 6.007e+01 2.445e+02 9.968e-02 1.972e-01 1.975e-01
 4.908e-02 2.330e-01 8.743e-02 4.653e-01 1.911e+00 3.769e+00 2.420e+01
 9.845e-03 6.590e-02 1.027e-01 2.527e-02 3.491e-02 7.877e-03 1.006e+01
 2.340e+01 6.862e+01 2.971e+02 1.221e-01 3.748e-01 4.609e-01 1.145e-01
 3.135e-01 1.055e-01], Class Predicted = 1
 X283 = [1.246e+01 1.283e+01 7.883e+01 4.773e+02 7.372e-02 4.043e-02 7.173e-03
 1.149e-02 1.613e-01 6.013e-02 3.276e-01 1.486e+00 2.108e+00 2.460e+01
 1.039e-02 1.003e-02 6.416e-03 7.895e-03 2.869e-02 4.821e-03 1.319e+01
 1.636e+01 8.324e+01 5.340e+02 9.439e-02 6.477e-02 1.674e-02 2.680e-02
 2.280e-01 7.028e-02], Class Predicted = 1
 X284 = [1.575e+01 1.922e+01 1.071e+02 7.586e+02 1.243e-01 2.364e-01 2.914e-01
 1.242e-01 2.375e-01 7.603e-02 5.204e-01 1.324e+00 3.477e+00 5.122e+01
 9.329e-03 6.559e-02 9.953e-02 2.283e-02 5.543e-02 7.330e-03 1.736e+01
 2.417e+01 1.194e+02 9.153e+02 1.550e-01 5.046e-01 6.872e-01 2.135e-01
 4.245e-01 1.050e-01], Class Predicted = 0
 X285 = [1.754e+01 1.932e+01 1.151e+02 9.516e+02 8.968e-02 1.198e-01 1.036e-01
 7.488e-02 1.506e-01 5.491e-02 3.971e-01 8.282e-01 3.088e+00 4.073e+01
 6.090e-03 2.569e-02 2.713e-02 1.345e-02 1.594e-02 2.658e-03 2.042e+01
 2.584e+01 1.395e+02 1.239e+03 1.381e-01 3.420e-01 3.508e-01 1.939e-01
 2.928e-01 7.867e-02], Class Predicted = 0
 X286 = [1.126e+01 1.983e+01 7.130e+01 3.881e+02 8.511e-02 4.413e-02 5.067e-03
 5.664e-03 1.637e-01 6.343e-02 1.344e-01 1.083e+00 9.812e-01 9.332e+00

4.200e-03 5.900e-03 3.846e-03 4.065e-03 1.487e-02 2.295e-03 1.193e+01
 2.643e+01 7.638e+01 4.359e+02 1.108e-01 7.723e-02 2.533e-02 2.832e-02
 2.557e-01 7.613e-02], Class Predicted = 1
 X287 = [1.458e+01 2.153e+01 9.741e+01 6.448e+02 1.054e-01 1.868e-01 1.425e-01
 8.783e-02 2.252e-01 6.924e-02 2.545e-01 9.832e-01 2.110e+00 2.105e+01
 4.452e-03 3.055e-02 2.681e-02 1.352e-02 1.454e-02 3.711e-03 1.762e+01
 3.321e+01 1.224e+02 8.969e+02 1.525e-01 6.643e-01 5.539e-01 2.701e-01
 4.264e-01 1.275e-01], Class Predicted = 0
 X288 = [1.184e+01 1.894e+01 7.551e+01 4.280e+02 8.871e-02 6.900e-02 2.669e-02
 1.393e-02 1.533e-01 6.057e-02 2.222e-01 8.652e-01 1.444e+00 1.712e+01
 5.517e-03 1.727e-02 2.045e-02 6.747e-03 1.616e-02 2.922e-03 1.330e+01
 2.499e+01 8.522e+01 5.463e+02 1.280e-01 1.880e-01 1.471e-01 6.913e-02
 2.535e-01 7.993e-02], Class Predicted = 1
 X289 = [1.088e+01 1.562e+01 7.041e+01 3.589e+02 1.007e-01 1.069e-01 5.115e-02
 1.571e-02 1.861e-01 6.837e-02 1.482e-01 5.380e-01 1.301e+00 9.597e+00
 4.474e-03 3.093e-02 2.757e-02 6.691e-03 1.212e-02 4.672e-03 1.194e+01
 1.935e+01 8.078e+01 4.331e+02 1.332e-01 3.898e-01 3.365e-01 7.966e-02
 2.581e-01 1.080e-01], Class Predicted = 1
 X290 = [1.232e+01 1.239e+01 7.885e+01 4.641e+02 1.028e-01 6.981e-02 3.987e-02
 3.700e-02 1.959e-01 5.955e-02 2.360e-01 6.656e-01 1.670e+00 1.743e+01
 8.045e-03 1.180e-02 1.683e-02 1.241e-02 1.924e-02 2.248e-03 1.350e+01
 1.564e+01 8.697e+01 5.491e+02 1.385e-01 1.266e-01 1.242e-01 9.391e-02
 2.827e-01 6.771e-02], Class Predicted = 1
 X291 = [1.288e+01 2.892e+01 8.250e+01 5.143e+02 8.123e-02 5.824e-02 6.195e-02
 2.343e-02 1.566e-01 5.708e-02 2.116e-01 1.360e+00 1.502e+00 1.683e+01
 8.412e-03 2.153e-02 3.898e-02 7.620e-03 1.695e-02 2.801e-03 1.389e+01
 3.574e+01 8.884e+01 5.957e+02 1.227e-01 1.620e-01 2.439e-01 6.493e-02
 2.372e-01 7.242e-02], Class Predicted = 1
 X292 = [1.927e+01 2.647e+01 1.279e+02 1.162e+03 9.401e-02 1.719e-01 1.657e-01
 7.593e-02 1.853e-01 6.261e-02 5.558e-01 6.062e-01 3.528e+00 6.817e+01
 5.015e-03 3.318e-02 3.497e-02 9.643e-03 1.543e-02 3.896e-03 2.415e+01
 3.090e+01 1.614e+02 1.813e+03 1.509e-01 6.590e-01 6.091e-01 1.785e-01
 3.672e-01 1.123e-01], Class Predicted = 0
 X293 = [1.194e+01 2.076e+01 7.787e+01 4.410e+02 8.605e-02 1.011e-01 6.574e-02
 3.791e-02 1.588e-01 6.766e-02 2.742e-01 1.390e+00 3.198e+00 2.191e+01
 6.719e-03 5.156e-02 4.387e-02 1.633e-02 1.872e-02 8.015e-03 1.324e+01
 2.729e+01 9.220e+01 5.461e+02 1.116e-01 2.813e-01 2.365e-01 1.155e-01
 2.465e-01 9.981e-02], Class Predicted = 1
 X294 = [1.799e+01 2.066e+01 1.178e+02 9.917e+02 1.036e-01 1.304e-01 1.201e-01
 8.824e-02 1.992e-01 6.069e-02 4.537e-01 8.733e-01 3.061e+00 4.981e+01
 7.231e-03 2.772e-02 2.509e-02 1.480e-02 1.414e-02 3.336e-03 2.108e+01
 2.541e+01 1.381e+02 1.349e+03 1.482e-01 3.735e-01 3.301e-01 1.974e-01
 3.060e-01 8.503e-02], Class Predicted = 0
 X295 = [1.354e+01 1.436e+01 8.746e+01 5.663e+02 9.779e-02 8.129e-02 6.664e-02
 4.781e-02 1.885e-01 5.766e-02 2.699e-01 7.886e-01 2.058e+00 2.356e+01
 8.462e-03 1.460e-02 2.387e-02 1.315e-02 1.980e-02 2.300e-03 1.511e+01
 1.926e+01 9.970e+01 7.112e+02 1.440e-01 1.773e-01 2.390e-01 1.288e-01
 2.977e-01 7.259e-02], Class Predicted = 1
 X296 = [2.351e+01 2.427e+01 1.551e+02 1.747e+03 1.069e-01 1.283e-01 2.308e-01
 1.410e-01 1.797e-01 5.506e-02 1.009e+00 9.245e-01 6.462e+00 1.641e+02
 6.292e-03 1.971e-02 3.582e-02 1.301e-02 1.479e-02 3.118e-03 3.067e+01
 3.073e+01 2.024e+02 2.906e+03 1.515e-01 2.678e-01 4.819e-01 2.089e-01
 2.593e-01 7.738e-02], Class Predicted = 0
 X297 = [1.277e+01 2.141e+01 8.202e+01 5.074e+02 8.749e-02 6.601e-02 3.112e-02
 2.864e-02 1.694e-01 6.287e-02 7.311e-01 1.748e+00 5.118e+00 5.365e+01
 4.571e-03 1.790e-02 2.176e-02 1.757e-02 3.373e-02 5.875e-03 1.375e+01
 2.350e+01 8.904e+01 5.795e+02 9.388e-02 8.978e-02 5.186e-02 4.773e-02
 2.179e-01 6.871e-02], Class Predicted = 1
 X298 = [1.299e+01 1.423e+01 8.408e+01 5.143e+02 9.462e-02 9.965e-02 3.738e-02
 2.098e-02 1.652e-01 7.238e-02 1.814e-01 6.412e-01 9.219e-01 1.441e+01
 5.231e-03 2.305e-02 3.113e-02 7.315e-03 1.639e-02 5.701e-03 1.372e+01
 1.691e+01 8.738e+01 5.760e+02 1.142e-01 1.975e-01 1.450e-01 5.850e-02
 2.432e-01 1.009e-01], Class Predicted = 1
 X299 = [1.402e+01 1.566e+01 8.959e+01 6.065e+02 7.966e-02 5.581e-02 2.087e-02
 2.652e-02 1.589e-01 5.586e-02 2.142e-01 6.549e-01 1.606e+00 1.925e+01
 4.837e-03 9.238e-03 9.213e-03 1.076e-02 1.171e-02 2.104e-03 1.491e+01
 1.931e+01 9.653e+01 6.889e+02 1.034e-01 1.017e-01 6.260e-02 8.216e-02
 2.136e-01 6.710e-02], Class Predicted = 1
 X300 = [1.277e+01 2.943e+01 8.135e+01 5.079e+02 8.276e-02 4.234e-02 1.997e-02

1.499e-02 1.539e-01 5.637e-02 2.409e-01 1.367e+00 1.477e+00 1.876e+01
 8.835e-03 1.233e-02 1.328e-02 9.305e-03 1.897e-02 1.726e-03 1.387e+01
 3.600e+01 8.810e+01 5.947e+02 1.234e-01 1.064e-01 8.653e-02 6.498e-02
 2.407e-01 6.484e-02], Class Predicted = 1
 X301 = [2.018e+01 1.954e+01 1.338e+02 1.250e+03 1.133e-01 1.489e-01 2.133e-01
 1.259e-01 1.724e-01 6.053e-02 4.331e-01 1.001e+00 3.008e+00 5.249e+01
 9.087e-03 2.715e-02 5.546e-02 1.910e-02 2.451e-02 4.005e-03 2.203e+01
 2.507e+01 1.460e+02 1.479e+03 1.665e-01 2.942e-01 5.308e-01 2.173e-01
 3.032e-01 8.075e-02], Class Predicted = 0
 X302 = [1.625e+01 1.951e+01 1.098e+02 8.158e+02 1.026e-01 1.893e-01 2.236e-01
 9.194e-02 2.151e-01 6.578e-02 3.147e-01 9.857e-01 3.070e+00 3.312e+01
 9.197e-03 5.470e-02 8.079e-02 2.215e-02 2.773e-02 6.355e-03 1.739e+01
 2.305e+01 1.221e+02 9.397e+02 1.377e-01 4.462e-01 5.897e-01 1.775e-01
 3.318e-01 9.136e-02], Class Predicted = 0
 X303 = [2.811e+01 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01
 1.595e-01 1.648e-01 5.525e-02 2.873e+00 1.476e+00 2.198e+01 5.256e+02
 1.345e-02 2.772e-02 6.389e-02 1.407e-02 4.783e-02 4.476e-03 2.811e+01
 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01 1.595e-01
 1.648e-01 5.525e-02], Class Predicted = 0
 X304 = [1.371e+01 1.868e+01 8.873e+01 5.710e+02 9.916e-02 1.070e-01 5.385e-02
 3.783e-02 1.714e-01 6.843e-02 3.191e-01 1.249e+00 2.284e+00 2.645e+01
 6.739e-03 2.251e-02 2.086e-02 1.352e-02 1.870e-02 3.747e-03 1.511e+01
 2.563e+01 9.943e+01 7.019e+02 1.425e-01 2.566e-01 1.935e-01 1.284e-01
 2.849e-01 9.031e-02], Class Predicted = 1
 X305 = [8.726e+00 1.583e+01 5.584e+01 2.309e+02 1.150e-01 8.201e-02 4.132e-02
 1.924e-02 1.649e-01 7.633e-02 1.665e-01 5.864e-01 1.354e+00 8.966e+00
 8.261e-03 2.213e-02 3.259e-02 1.040e-02 1.708e-02 3.806e-03 9.628e+00
 1.962e+01 6.448e+01 2.844e+02 1.724e-01 2.364e-01 2.456e-01 1.050e-01
 2.926e-01 1.017e-01], Class Predicted = 1
 X306 = [1.136e+01 1.757e+01 7.249e+01 3.998e+02 8.858e-02 5.313e-02 2.783e-02
 2.100e-02 1.601e-01 5.913e-02 1.916e-01 1.555e+00 1.359e+00 1.366e+01
 5.391e-03 9.947e-03 1.163e-02 5.872e-03 1.341e-02 1.659e-03 1.305e+01
 3.632e+01 8.507e+01 5.213e+02 1.453e-01 1.622e-01 1.811e-01 8.698e-02
 2.973e-01 7.745e-02], Class Predicted = 1
 X307 = [1.130e+01 1.819e+01 7.393e+01 3.894e+02 9.592e-02 1.325e-01 1.548e-01
 2.854e-02 2.054e-01 7.669e-02 2.428e-01 1.642e+00 2.369e+00 1.639e+01
 6.663e-03 5.914e-02 8.880e-02 1.314e-02 1.995e-02 8.675e-03 1.258e+01
 2.796e+01 8.716e+01 4.729e+02 1.347e-01 4.848e-01 7.436e-01 1.218e-01
 3.308e-01 1.297e-01], Class Predicted = 0
 X308 = [1.350e+01 1.271e+01 8.569e+01 5.662e+02 7.376e-02 3.614e-02 2.758e-03
 4.419e-03 1.365e-01 5.335e-02 2.244e-01 6.864e-01 1.509e+00 2.039e+01
 3.338e-03 3.746e-03 2.030e-03 3.242e-03 1.480e-02 1.566e-03 1.497e+01
 1.694e+01 9.548e+01 6.987e+02 9.023e-02 5.836e-02 1.379e-02 2.210e-02
 2.267e-01 6.192e-02], Class Predicted = 1
 X309 = [1.106e+01 1.483e+01 7.031e+01 3.782e+02 7.741e-02 4.768e-02 2.712e-02
 7.246e-03 1.535e-01 6.214e-02 1.855e-01 6.881e-01 1.263e+00 1.298e+01
 4.259e-03 1.469e-02 1.940e-02 4.168e-03 1.191e-02 3.537e-03 1.268e+01
 2.035e+01 8.079e+01 4.967e+02 1.120e-01 1.879e-01 2.079e-01 5.556e-02
 2.590e-01 9.158e-02], Class Predicted = 1
 X310 = [1.048e+01 1.986e+01 6.672e+01 3.377e+02 1.070e-01 5.971e-02 4.831e-02
 3.070e-02 1.737e-01 6.440e-02 3.719e-01 2.612e+00 2.517e+00 2.322e+01
 1.604e-02 1.386e-02 1.865e-02 1.133e-02 3.476e-02 3.560e-03 1.148e+01
 2.946e+01 7.368e+01 4.028e+02 1.515e-01 1.026e-01 1.181e-01 6.736e-02
 2.883e-01 7.748e-02], Class Predicted = 1
 X311 = [1.845e+01 2.191e+01 1.202e+02 1.075e+03 9.430e-02 9.709e-02 1.153e-01
 6.847e-02 1.692e-01 5.727e-02 5.959e-01 1.202e+00 3.766e+00 6.835e+01
 6.001e-03 1.422e-02 2.855e-02 9.148e-03 1.492e-02 2.205e-03 2.252e+01
 3.139e+01 1.456e+02 1.590e+03 1.465e-01 2.275e-01 3.965e-01 1.379e-01
 3.109e-01 7.610e-02], Class Predicted = 0
 X312 = [1.471e+01 2.159e+01 9.555e+01 6.569e+02 1.137e-01 1.365e-01 1.293e-01
 8.123e-02 2.027e-01 6.758e-02 4.226e-01 1.150e+00 2.735e+00 4.009e+01
 3.659e-03 2.855e-02 2.572e-02 1.272e-02 1.817e-02 4.108e-03 1.787e+01
 3.070e+01 1.157e+02 9.855e+02 1.368e-01 4.290e-01 3.587e-01 1.834e-01
 3.698e-01 1.094e-01], Class Predicted = 0
 X313 = [1.702e+01 2.398e+01 1.128e+02 8.993e+02 1.197e-01 1.496e-01 2.417e-01
 1.203e-01 2.248e-01 6.382e-02 6.009e-01 1.398e+00 3.999e+00 6.778e+01
 8.268e-03 3.082e-02 5.042e-02 1.112e-02 2.102e-02 3.854e-03 2.088e+01
 3.209e+01 1.361e+02 1.344e+03 1.634e-01 3.559e-01 5.588e-01 1.847e-01
 3.530e-01 8.482e-02], Class Predicted = 0

X314 = [2.057e+01 1.777e+01 1.329e+02 1.326e+03 8.474e-02 7.864e-02 8.690e-02
 7.017e-02 1.812e-01 5.667e-02 5.435e-01 7.339e-01 3.398e+00 7.408e+01
 5.225e-03 1.308e-02 1.860e-02 1.340e-02 1.389e-02 3.532e-03 2.499e+01
 2.341e+01 1.588e+02 1.956e+03 1.238e-01 1.866e-01 2.416e-01 1.860e-01
 2.750e-01 8.902e-02], Class Predicted = 0
 X315 = [1.163e+01 2.929e+01 7.487e+01 4.151e+02 9.357e-02 8.574e-02 7.160e-02
 2.017e-02 1.799e-01 6.166e-02 3.135e-01 2.426e+00 2.150e+00 2.313e+01
 9.861e-03 2.418e-02 4.275e-02 9.215e-03 2.475e-02 2.128e-03 1.312e+01
 3.881e+01 8.604e+01 5.278e+02 1.406e-01 2.031e-01 2.923e-01 6.835e-02
 2.884e-01 7.220e-02], Class Predicted = 1
 X316 = [1.080e+01 9.710e+00 6.877e+01 3.576e+02 9.594e-02 5.736e-02 2.531e-02
 1.698e-02 1.381e-01 6.400e-02 1.728e-01 4.064e-01 1.126e+00 1.148e+01
 7.809e-03 9.816e-03 1.099e-02 5.344e-03 1.254e-02 2.120e-03 1.160e+01
 1.202e+01 7.366e+01 4.140e+02 1.436e-01 1.257e-01 1.047e-01 4.603e-02
 2.090e-01 7.699e-02], Class Predicted = 1
 X317 = [1.420e+01 2.053e+01 9.241e+01 6.184e+02 8.931e-02 1.108e-01 5.063e-02
 3.058e-02 1.506e-01 6.009e-02 3.478e-01 1.018e+00 2.749e+00 3.101e+01
 4.107e-03 3.288e-02 2.821e-02 1.350e-02 1.610e-02 2.744e-03 1.645e+01
 2.726e+01 1.121e+02 8.285e+02 1.153e-01 3.429e-01 2.512e-01 1.339e-01
 2.534e-01 7.858e-02], Class Predicted = 1
 X318 = [1.314e+01 2.074e+01 8.598e+01 5.369e+02 8.675e-02 1.089e-01 1.085e-01
 3.510e-02 1.562e-01 6.020e-02 3.152e-01 7.884e-01 2.312e+00 2.740e+01
 7.295e-03 3.179e-02 4.615e-02 1.254e-02 1.561e-02 3.230e-03 1.480e+01
 2.546e+01 1.009e+02 6.891e+02 1.351e-01 3.549e-01 4.504e-01 1.181e-01
 2.563e-01 8.174e-02], Class Predicted = 1
 X319 = [2.156e+01 2.239e+01 1.420e+02 1.479e+03 1.110e-01 1.159e-01 2.439e-01
 1.389e-01 1.726e-01 5.623e-02 1.176e+00 1.256e+00 7.673e+00 1.587e+02
 1.030e-02 2.891e-02 5.198e-02 2.454e-02 1.114e-02 4.239e-03 2.545e+01
 2.640e+01 1.661e+02 2.027e+03 1.410e-01 2.113e-01 4.107e-01 2.216e-01
 2.060e-01 7.115e-02], Class Predicted = 0
 X320 = [1.018e+01 1.753e+01 6.512e+01 3.131e+02 1.061e-01 8.502e-02 1.768e-02
 1.915e-02 1.910e-01 6.908e-02 2.467e-01 1.217e+00 1.641e+00 1.505e+01
 7.899e-03 1.400e-02 8.534e-03 7.624e-03 2.637e-02 3.761e-03 1.117e+01
 2.284e+01 7.194e+01 3.756e+02 1.406e-01 1.440e-01 6.572e-02 5.575e-02
 3.055e-01 8.797e-02], Class Predicted = 1
 X321 = [1.205e+01 1.463e+01 7.804e+01 4.493e+02 1.031e-01 9.092e-02 6.592e-02
 2.749e-02 1.675e-01 6.043e-02 2.636e-01 7.294e-01 1.848e+00 1.987e+01
 5.488e-03 1.427e-02 2.322e-02 5.660e-03 1.428e-02 2.422e-03 1.376e+01
 2.070e+01 8.988e+01 5.826e+02 1.494e-01 2.156e-01 3.050e-01 6.548e-02
 2.747e-01 8.301e-02], Class Predicted = 1
 X322 = [1.152e+01 1.493e+01 7.387e+01 4.063e+02 1.013e-01 7.808e-02 4.328e-02
 2.929e-02 1.883e-01 6.168e-02 2.562e-01 1.038e+00 1.686e+00 1.862e+01
 6.662e-03 1.228e-02 2.105e-02 1.006e-02 1.677e-02 2.784e-03 1.265e+01
 2.119e+01 8.088e+01 4.918e+02 1.389e-01 1.582e-01 1.804e-01 9.608e-02
 2.664e-01 7.809e-02], Class Predicted = 1
 X323 = [1.171e+01 1.667e+01 7.472e+01 4.236e+02 1.051e-01 6.095e-02 3.592e-02
 2.600e-02 1.339e-01 5.945e-02 4.489e-01 2.508e+00 3.258e+00 3.437e+01
 6.578e-03 1.380e-02 2.662e-02 1.307e-02 1.359e-02 3.707e-03 1.333e+01
 2.548e+01 8.616e+01 5.467e+02 1.271e-01 1.028e-01 1.046e-01 6.968e-02
 1.712e-01 7.343e-02], Class Predicted = 1
 X324 = [1.877e+01 2.143e+01 1.229e+02 1.092e+03 9.116e-02 1.402e-01 1.060e-01
 6.090e-02 1.953e-01 6.083e-02 6.422e-01 1.530e+00 4.369e+00 8.825e+01
 7.548e-03 3.897e-02 3.914e-02 1.816e-02 2.168e-02 4.445e-03 2.454e+01
 3.437e+01 1.611e+02 1.873e+03 1.498e-01 4.827e-01 4.634e-01 2.048e-01
 3.679e-01 9.870e-02], Class Predicted = 0
 X325 = [1.349e+01 2.230e+01 8.691e+01 5.610e+02 8.752e-02 7.698e-02 4.751e-02
 3.384e-02 1.809e-01 5.718e-02 2.338e-01 1.353e+00 1.735e+00 2.020e+01
 4.455e-03 1.382e-02 2.095e-02 1.184e-02 1.641e-02 1.956e-03 1.515e+01
 3.182e+01 9.900e+01 6.988e+02 1.162e-01 1.711e-01 2.282e-01 1.282e-01
 2.871e-01 6.917e-02], Class Predicted = 1
 X326 = [1.113e+01 2.244e+01 7.149e+01 3.784e+02 9.566e-02 8.194e-02 4.824e-02
 2.257e-02 2.030e-01 6.552e-02 2.800e-01 1.467e+00 1.994e+00 1.785e+01
 3.495e-03 3.051e-02 3.445e-02 1.024e-02 2.912e-02 4.723e-03 1.202e+01
 2.826e+01 7.780e+01 4.366e+02 1.087e-01 1.782e-01 1.564e-01 6.413e-02
 3.169e-01 8.032e-02], Class Predicted = 1
 X327 = [1.296e+01 1.829e+01 8.418e+01 5.252e+02 7.351e-02 7.899e-02 4.057e-02
 1.883e-02 1.874e-01 5.899e-02 2.357e-01 1.299e+00 2.397e+00 2.021e+01
 3.629e-03 3.713e-02 3.452e-02 1.065e-02 2.632e-02 3.705e-03 1.413e+01
 2.461e+01 9.631e+01 6.219e+02 9.329e-02 2.318e-01 1.604e-01 6.608e-02

3.207e-01 7.247e-02], Class Predicted = 1
 X328 = [1.646e+01 2.011e+01 1.093e+02 8.329e+02 9.831e-02 1.556e-01 1.793e-01
 8.866e-02 1.794e-01 6.323e-02 3.037e-01 1.284e+00 2.482e+00 3.159e+01
 6.627e-03 4.094e-02 5.371e-02 1.813e-02 1.682e-02 4.584e-03 1.779e+01
 2.845e+01 1.235e+02 9.812e+02 1.415e-01 4.667e-01 5.862e-01 2.035e-01
 3.054e-01 9.519e-02], Class Predicted = 0
 X329 = [1.245e+01 1.641e+01 8.285e+01 4.767e+02 9.514e-02 1.511e-01 1.544e-01
 4.846e-02 2.082e-01 7.325e-02 3.921e-01 1.207e+00 5.004e+00 3.019e+01
 7.234e-03 7.471e-02 1.114e-01 2.721e-02 3.232e-02 9.627e-03 1.378e+01
 2.103e+01 9.782e+01 5.806e+02 1.175e-01 4.061e-01 4.896e-01 1.342e-01
 3.231e-01 1.034e-01], Class Predicted = 0
 X330 = [1.513e+01 2.981e+01 9.671e+01 7.195e+02 8.320e-02 4.605e-02 4.686e-02
 2.739e-02 1.852e-01 5.294e-02 4.681e-01 1.627e+00 3.043e+00 4.538e+01
 6.831e-03 1.427e-02 2.489e-02 9.087e-03 3.151e-02 1.750e-03 1.726e+01
 3.691e+01 1.101e+02 9.314e+02 1.148e-01 9.866e-02 1.547e-01 6.575e-02
 3.233e-01 6.165e-02], Class Predicted = 1
 X331 = [2.309e+01 1.983e+01 1.521e+02 1.682e+03 9.342e-02 1.275e-01 1.676e-01
 1.003e-01 1.505e-01 5.484e-02 1.291e+00 7.452e-01 9.635e+00 1.802e+02
 5.753e-03 3.356e-02 3.976e-02 2.156e-02 2.201e-02 2.897e-03 3.079e+01
 2.387e+01 2.115e+02 2.782e+03 1.199e-01 3.625e-01 3.794e-01 2.264e-01
 2.908e-01 7.277e-02], Class Predicted = 0
 X332 = [1.614e+01 1.486e+01 1.043e+02 8.000e+02 9.495e-02 8.501e-02 5.500e-02
 4.528e-02 1.735e-01 5.875e-02 2.387e-01 6.372e-01 1.729e+00 2.183e+01
 3.958e-03 1.246e-02 1.831e-02 8.747e-03 1.500e-02 1.621e-03 1.771e+01
 1.958e+01 1.159e+02 9.479e+02 1.206e-01 1.722e-01 2.310e-01 1.129e-01
 2.778e-01 7.012e-02], Class Predicted = 1
 X333 = [2.201e+01 2.190e+01 1.472e+02 1.482e+03 1.063e-01 1.954e-01 2.448e-01
 1.501e-01 1.824e-01 6.140e-02 1.008e+00 6.999e-01 7.561e+00 1.302e+02
 3.978e-03 2.821e-02 3.576e-02 1.471e-02 1.518e-02 3.796e-03 2.766e+01
 2.580e+01 1.950e+02 2.227e+03 1.294e-01 3.885e-01 4.756e-01 2.432e-01
 2.741e-01 8.574e-02], Class Predicted = 0
 X334 = [1.161e+01 1.602e+01 7.546e+01 4.082e+02 1.088e-01 1.168e-01 7.097e-02
 4.497e-02 1.886e-01 6.320e-02 2.456e-01 7.339e-01 1.667e+00 1.589e+01
 5.884e-03 2.005e-02 2.631e-02 1.304e-02 1.848e-02 1.982e-03 1.264e+01
 1.967e+01 8.193e+01 4.757e+02 1.415e-01 2.170e-01 2.302e-01 1.105e-01
 2.787e-01 7.427e-02], Class Predicted = 1
 X335 = [1.390e+01 1.924e+01 8.873e+01 6.029e+02 7.991e-02 5.326e-02 2.995e-02
 2.070e-02 1.579e-01 5.594e-02 3.316e-01 9.264e-01 2.056e+00 2.841e+01
 3.704e-03 1.082e-02 1.530e-02 6.275e-03 1.062e-02 2.217e-03 1.641e+01
 2.642e+01 1.044e+02 8.305e+02 1.064e-01 1.415e-01 1.673e-01 8.150e-02
 2.356e-01 7.603e-02], Class Predicted = 1
 X336 = [1.289e+01 1.570e+01 8.408e+01 5.166e+02 7.818e-02 9.580e-02 1.115e-01
 3.390e-02 1.432e-01 5.935e-02 2.913e-01 1.389e+00 2.347e+00 2.329e+01
 6.418e-03 3.961e-02 7.927e-02 1.774e-02 1.878e-02 3.696e-03 1.390e+01
 1.969e+01 9.212e+01 5.956e+02 9.926e-02 2.317e-01 3.344e-01 1.017e-01
 1.999e-01 7.127e-02], Class Predicted = 1
 X337 = [1.199e+01 2.489e+01 7.761e+01 4.413e+02 1.030e-01 9.218e-02 5.441e-02
 4.274e-02 1.820e-01 6.850e-02 2.623e-01 1.204e+00 1.865e+00 1.939e+01
 8.320e-03 2.025e-02 2.334e-02 1.665e-02 2.094e-02 3.674e-03 1.298e+01
 3.036e+01 8.448e+01 5.139e+02 1.311e-01 1.822e-01 1.609e-01 1.202e-01
 2.599e-01 8.251e-02], Class Predicted = 1
 X338 = [1.347e+01 1.406e+01 8.732e+01 5.463e+02 1.071e-01 1.155e-01 5.786e-02
 5.266e-02 1.779e-01 6.639e-02 1.588e-01 5.733e-01 1.102e+00 1.284e+01
 4.450e-03 1.452e-02 1.334e-02 8.791e-03 1.698e-02 2.787e-03 1.483e+01
 1.832e+01 9.494e+01 6.602e+02 1.393e-01 2.499e-01 1.848e-01 1.335e-01
 3.227e-01 9.326e-02], Class Predicted = 1
 X339 = [1.290e+01 1.592e+01 8.374e+01 5.122e+02 8.677e-02 9.509e-02 4.894e-02
 3.088e-02 1.778e-01 6.235e-02 2.143e-01 7.712e-01 1.689e+00 1.664e+01
 5.324e-03 1.563e-02 1.510e-02 7.584e-03 2.104e-02 1.887e-03 1.448e+01
 2.182e+01 9.717e+01 6.438e+02 1.312e-01 2.548e-01 2.090e-01 1.012e-01
 3.549e-01 8.118e-02], Class Predicted = 1
 X340 = [1.714e+01 1.640e+01 1.160e+02 9.127e+02 1.186e-01 2.276e-01 2.229e-01
 1.401e-01 3.040e-01 7.413e-02 1.046e+00 9.760e-01 7.276e+00 1.114e+02
 8.029e-03 3.799e-02 3.732e-02 2.397e-02 2.308e-02 7.444e-03 2.225e+01
 2.140e+01 1.524e+02 1.461e+03 1.545e-01 3.949e-01 3.853e-01 2.550e-01
 4.066e-01 1.059e-01], Class Predicted = 0
 X341 = [1.530e+01 2.527e+01 1.024e+02 7.324e+02 1.082e-01 1.697e-01 1.683e-01
 8.751e-02 1.926e-01 6.540e-02 4.390e-01 1.012e+00 3.498e+00 4.350e+01
 5.233e-03 3.057e-02 3.576e-02 1.083e-02 1.768e-02 2.967e-03 2.027e+01

3.671e+01 1.493e+02 1.269e+03 1.641e-01 6.110e-01 6.335e-01 2.024e-01
 4.027e-01 9.876e-02], Class Predicted = 0
 X342 = [2.573e+01 1.746e+01 1.742e+02 2.010e+03 1.149e-01 2.363e-01 3.368e-01
 1.913e-01 1.956e-01 6.121e-02 9.948e-01 8.509e-01 7.222e+00 1.531e+02
 6.369e-03 4.243e-02 4.266e-02 1.508e-02 2.335e-02 3.385e-03 3.313e+01
 2.358e+01 2.293e+02 3.234e+03 1.530e-01 5.937e-01 6.451e-01 2.756e-01
 3.690e-01 8.815e-02], Class Predicted = 0
 X343 = [1.340e+01 1.695e+01 8.548e+01 5.524e+02 7.937e-02 5.696e-02 2.181e-02
 1.473e-02 1.650e-01 5.701e-02 1.584e-01 6.124e-01 1.036e+00 1.322e+01
 4.394e-03 1.250e-02 1.451e-02 5.484e-03 1.291e-02 2.074e-03 1.473e+01
 2.170e+01 9.376e+01 6.635e+02 1.213e-01 1.676e-01 1.364e-01 6.987e-02
 2.741e-01 7.582e-02], Class Predicted = 1
 X344 = [1.143e+01 1.539e+01 7.306e+01 3.998e+02 9.639e-02 6.889e-02 3.503e-02
 2.875e-02 1.734e-01 5.865e-02 1.759e-01 9.938e-01 1.143e+00 1.267e+01
 5.133e-03 1.521e-02 1.434e-02 8.602e-03 1.501e-02 1.588e-03 1.232e+01
 2.202e+01 7.993e+01 4.620e+02 1.190e-01 1.648e-01 1.399e-01 8.476e-02
 2.676e-01 6.765e-02], Class Predicted = 1
 X345 = [1.316e+01 2.054e+01 8.406e+01 5.387e+02 7.335e-02 5.275e-02 1.800e-02
 1.256e-02 1.713e-01 5.888e-02 3.237e-01 1.473e+00 2.326e+00 2.607e+01
 7.802e-03 2.052e-02 1.341e-02 5.564e-03 2.086e-02 2.701e-03 1.450e+01
 2.846e+01 9.529e+01 6.483e+02 1.118e-01 1.646e-01 7.698e-02 4.195e-02
 2.687e-01 7.429e-02], Class Predicted = 1
 X346 = [1.617e+01 1.607e+01 1.063e+02 7.885e+02 9.880e-02 1.438e-01 6.651e-02
 5.397e-02 1.990e-01 6.572e-02 1.745e-01 4.890e-01 1.349e+00 1.491e+01
 4.510e-03 1.812e-02 1.951e-02 1.196e-02 1.934e-02 3.696e-03 1.697e+01
 1.914e+01 1.131e+02 8.615e+02 1.235e-01 2.550e-01 2.114e-01 1.251e-01
 3.153e-01 8.960e-02], Class Predicted = 1
 X347 = [1.849e+01 1.752e+01 1.213e+02 1.068e+03 1.012e-01 1.317e-01 1.491e-01
 9.183e-02 1.832e-01 6.697e-02 7.923e-01 1.045e+00 4.851e+00 9.577e+01
 7.974e-03 3.214e-02 4.435e-02 1.573e-02 1.617e-02 5.255e-03 2.275e+01
 2.288e+01 1.464e+02 1.600e+03 1.412e-01 3.089e-01 3.533e-01 1.663e-01
 2.510e-01 9.445e-02], Class Predicted = 0
 X348 = [1.340e+01 2.052e+01 8.864e+01 5.567e+02 1.106e-01 1.469e-01 1.445e-01
 8.172e-02 2.116e-01 7.325e-02 3.906e-01 9.306e-01 3.093e+00 3.367e+01
 5.414e-03 2.265e-02 3.452e-02 1.334e-02 1.705e-02 4.005e-03 1.641e+01
 2.966e+01 1.133e+02 8.444e+02 1.574e-01 3.856e-01 5.106e-01 2.051e-01
 3.585e-01 1.109e-01], Class Predicted = 0
 X349 = [1.894e+01 2.131e+01 1.236e+02 1.130e+03 9.009e-02 1.029e-01 1.080e-01
 7.951e-02 1.582e-01 5.461e-02 7.888e-01 7.975e-01 5.486e+00 9.605e+01
 4.444e-03 1.652e-02 2.269e-02 1.370e-02 1.386e-02 1.698e-03 2.486e+01
 2.658e+01 1.659e+02 1.866e+03 1.193e-01 2.336e-01 2.687e-01 1.789e-01
 2.551e-01 6.589e-02], Class Predicted = 0
 X350 = [1.286e+01 1.332e+01 8.282e+01 5.048e+02 1.134e-01 8.834e-02 3.800e-02
 3.400e-02 1.543e-01 6.476e-02 2.212e-01 1.042e+00 1.614e+00 1.657e+01
 5.910e-03 2.016e-02 1.902e-02 1.011e-02 1.202e-02 3.107e-03 1.404e+01
 2.108e+01 9.280e+01 5.995e+02 1.547e-01 2.231e-01 1.791e-01 1.155e-01
 2.382e-01 8.553e-02], Class Predicted = 1
 X351 = [1.125e+01 1.478e+01 7.138e+01 3.900e+02 8.306e-02 4.458e-02 9.737e-04
 2.941e-03 1.773e-01 6.081e-02 2.144e-01 9.961e-01 1.529e+00 1.507e+01
 5.617e-03 7.124e-03 9.737e-04 2.941e-03 1.700e-02 2.030e-03 1.276e+01
 2.206e+01 8.208e+01 4.927e+02 1.166e-01 9.794e-02 5.518e-03 1.667e-02
 2.815e-01 7.418e-02], Class Predicted = 1
 X352 = [1.166e+01 1.707e+01 7.370e+01 4.210e+02 7.561e-02 3.630e-02 8.306e-03
 1.162e-02 1.671e-01 5.731e-02 3.534e-01 6.724e-01 2.225e+00 2.603e+01
 6.583e-03 6.991e-03 5.949e-03 6.296e-03 2.216e-02 2.668e-03 1.328e+01
 1.974e+01 8.361e+01 5.425e+02 9.958e-02 6.476e-02 3.046e-02 4.262e-02
 2.731e-01 6.825e-02], Class Predicted = 1
 X353 = [1.184e+01 1.870e+01 7.793e+01 4.406e+02 1.109e-01 1.516e-01 1.218e-01
 5.182e-02 2.301e-01 7.799e-02 4.825e-01 1.030e+00 3.475e+00 4.100e+01
 5.551e-03 3.414e-02 4.205e-02 1.044e-02 2.273e-02 5.667e-03 1.682e+01
 2.812e+01 1.194e+02 8.887e+02 1.637e-01 5.775e-01 6.956e-01 1.546e-01
 4.761e-01 1.402e-01], Class Predicted = 0
 X354 = [1.160e+01 1.284e+01 7.434e+01 4.126e+02 8.983e-02 7.525e-02 4.196e-02
 3.350e-02 1.620e-01 6.582e-02 2.315e-01 5.391e-01 1.475e+00 1.575e+01
 6.153e-03 1.330e-02 1.693e-02 6.884e-03 1.651e-02 2.551e-03 1.306e+01
 1.716e+01 8.296e+01 5.125e+02 1.431e-01 1.851e-01 1.922e-01 8.449e-02
 2.772e-01 8.756e-02], Class Predicted = 1
 X355 = [1.305e+01 1.931e+01 8.261e+01 5.272e+02 8.060e-02 3.789e-02 6.920e-04
 4.167e-03 1.819e-01 5.501e-02 4.040e-01 1.214e+00 2.595e+00 3.296e+01

7.491e-03 8.593e-03 6.920e-04 4.167e-03 2.190e-02 2.990e-03 1.423e+01
 2.225e+01 9.024e+01 6.241e+02 1.021e-01 6.191e-02 1.845e-03 1.111e-02
 2.439e-01 6.289e-02], Class Predicted = 1
 X356 = [1.175e+01 2.018e+01 7.610e+01 4.198e+02 1.089e-01 1.141e-01 6.843e-02
 3.738e-02 1.993e-01 6.453e-02 5.018e-01 1.693e+00 3.926e+00 3.834e+01
 9.433e-03 2.405e-02 4.167e-02 1.152e-02 3.397e-02 5.061e-03 1.332e+01
 2.621e+01 8.891e+01 5.439e+02 1.358e-01 1.892e-01 1.956e-01 7.909e-02
 3.168e-01 7.987e-02], Class Predicted = 1
 X357 = [1.065e+01 2.522e+01 6.801e+01 3.470e+02 9.657e-02 7.234e-02 2.379e-02
 1.615e-02 1.897e-01 6.329e-02 2.497e-01 1.493e+00 1.497e+00 1.664e+01
 7.189e-03 1.035e-02 1.081e-02 6.245e-03 2.158e-02 2.619e-03 1.225e+01
 3.519e+01 7.798e+01 4.557e+02 1.499e-01 1.398e-01 1.125e-01 6.136e-02
 3.409e-01 8.147e-02], Class Predicted = 1
 X358 = [1.775e+01 2.803e+01 1.173e+02 9.816e+02 9.997e-02 1.314e-01 1.698e-01
 8.293e-02 1.713e-01 5.916e-02 3.897e-01 1.077e+00 2.873e+00 4.395e+01
 4.714e-03 2.015e-02 3.697e-02 1.110e-02 1.237e-02 2.556e-03 2.153e+01
 3.854e+01 1.454e+02 1.437e+03 1.401e-01 3.762e-01 6.399e-01 1.970e-01
 2.972e-01 9.075e-02], Class Predicted = 0
 X359 = [1.453e+01 1.934e+01 9.425e+01 6.597e+02 8.388e-02 7.800e-02 8.817e-02
 2.925e-02 1.473e-01 5.746e-02 2.535e-01 1.354e+00 1.994e+00 2.304e+01
 4.147e-03 2.048e-02 3.379e-02 8.848e-03 1.394e-02 2.327e-03 1.630e+01
 2.839e+01 1.081e+02 8.305e+02 1.089e-01 2.649e-01 3.779e-01 9.594e-02
 2.471e-01 7.463e-02], Class Predicted = 1
 X360 = [1.219e+01 1.329e+01 7.908e+01 4.558e+02 1.066e-01 9.509e-02 2.855e-02
 2.882e-02 1.880e-01 6.471e-02 2.005e-01 8.163e-01 1.973e+00 1.524e+01
 6.773e-03 2.456e-02 1.018e-02 8.094e-03 2.662e-02 4.143e-03 1.334e+01
 1.781e+01 9.138e+01 5.452e+02 1.427e-01 2.585e-01 9.915e-02 8.187e-02
 3.469e-01 9.241e-02], Class Predicted = 1
 X361 = [2.059e+01 2.124e+01 1.378e+02 1.320e+03 1.085e-01 1.644e-01 2.188e-01
 1.121e-01 1.848e-01 6.222e-02 5.904e-01 1.216e+00 4.206e+00 7.509e+01
 6.666e-03 2.791e-02 4.062e-02 1.479e-02 1.117e-02 3.727e-03 2.386e+01
 3.076e+01 1.632e+02 1.760e+03 1.464e-01 3.597e-01 5.179e-01 2.113e-01
 2.480e-01 8.999e-02], Class Predicted = 0
 X362 = [1.129e+01 1.304e+01 7.223e+01 3.880e+02 9.834e-02 7.608e-02 3.265e-02
 2.755e-02 1.769e-01 6.270e-02 1.904e-01 5.293e-01 1.164e+00 1.317e+01
 6.472e-03 1.122e-02 1.282e-02 8.849e-03 1.692e-02 2.817e-03 1.232e+01
 1.618e+01 7.827e+01 4.575e+02 1.358e-01 1.507e-01 1.275e-01 8.750e-02
 2.733e-01 8.022e-02], Class Predicted = 1
 X363 = [1.291e+01 1.633e+01 8.253e+01 5.164e+02 7.941e-02 5.366e-02 3.873e-02
 2.377e-02 1.829e-01 5.667e-02 1.942e-01 9.086e-01 1.493e+00 1.575e+01
 5.298e-03 1.587e-02 2.321e-02 8.420e-03 1.853e-02 2.152e-03 1.388e+01
 2.200e+01 9.081e+01 6.006e+02 1.097e-01 1.506e-01 1.764e-01 8.235e-02
 3.024e-01 6.949e-02], Class Predicted = 1
 X364 = [1.527e+01 1.291e+01 9.817e+01 7.255e+02 8.182e-02 6.230e-02 5.892e-02
 3.157e-02 1.359e-01 5.526e-02 2.134e-01 3.628e-01 1.525e+00 2.000e+01
 4.291e-03 1.236e-02 1.841e-02 7.373e-03 9.539e-03 1.656e-03 1.738e+01
 1.592e+01 1.137e+02 9.327e+02 1.222e-01 2.186e-01 2.962e-01 1.035e-01
 2.320e-01 7.474e-02], Class Predicted = 1
 X365 = [1.221e+01 1.802e+01 7.831e+01 4.584e+02 9.231e-02 7.175e-02 4.392e-02
 2.027e-02 1.695e-01 5.916e-02 2.527e-01 7.786e-01 1.874e+00 1.857e+01
 5.833e-03 1.388e-02 2.000e-02 7.087e-03 1.938e-02 1.960e-03 1.429e+01
 2.404e+01 9.385e+01 6.246e+02 1.368e-01 2.170e-01 2.413e-01 8.829e-02
 3.218e-01 7.470e-02], Class Predicted = 1
 X366 = [1.337e+01 1.639e+01 8.610e+01 5.535e+02 7.115e-02 7.325e-02 8.092e-02
 2.800e-02 1.422e-01 5.823e-02 1.639e-01 1.140e+00 1.223e+00 1.466e+01
 5.919e-03 3.270e-02 4.957e-02 1.038e-02 1.208e-02 4.076e-03 1.426e+01
 2.275e+01 9.199e+01 6.321e+02 1.025e-01 2.531e-01 3.308e-01 8.978e-02
 2.048e-01 7.628e-02], Class Predicted = 1
 X367 = [1.519e+01 1.321e+01 9.765e+01 7.118e+02 7.963e-02 6.934e-02 3.393e-02
 2.657e-02 1.721e-01 5.544e-02 1.783e-01 4.125e-01 1.338e+00 1.772e+01
 5.012e-03 1.485e-02 1.551e-02 9.155e-03 1.647e-02 1.767e-03 1.620e+01
 1.573e+01 1.045e+02 8.191e+02 1.126e-01 1.737e-01 1.362e-01 8.178e-02
 2.487e-01 6.766e-02], Class Predicted = 1
 X368 = [1.094e+01 1.859e+01 7.039e+01 3.700e+02 1.004e-01 7.460e-02 4.944e-02
 2.932e-02 1.486e-01 6.615e-02 3.796e-01 1.743e+00 3.018e+00 2.578e+01
 9.519e-03 2.134e-02 1.990e-02 1.155e-02 2.079e-02 2.701e-03 1.240e+01
 2.558e+01 8.276e+01 4.724e+02 1.363e-01 1.644e-01 1.412e-01 7.887e-02
 2.251e-01 7.732e-02], Class Predicted = 1
 X369 = [1.300e+01 2.182e+01 8.750e+01 5.198e+02 1.273e-01 1.932e-01 1.859e-01

9.353e-02 2.350e-01 7.389e-02 3.063e-01 1.002e+00 2.406e+00 2.432e+01
 5.731e-03 3.502e-02 3.553e-02 1.226e-02 2.143e-02 3.749e-03 1.549e+01
 3.073e+01 1.062e+02 7.393e+02 1.703e-01 5.401e-01 5.390e-01 2.060e-01
 4.378e-01 1.072e-01], Class Predicted = 0
 X370 = [1.953e+01 1.890e+01 1.295e+02 1.217e+03 1.150e-01 1.642e-01 2.197e-01
 1.062e-01 1.792e-01 6.552e-02 1.111e+00 1.161e+00 7.237e+00 1.330e+02
 6.056e-03 3.203e-02 5.638e-02 1.733e-02 1.884e-02 4.787e-03 2.593e+01
 2.624e+01 1.711e+02 2.053e+03 1.495e-01 4.116e-01 6.121e-01 1.980e-01
 2.968e-01 9.929e-02], Class Predicted = 0
 X371 = [1.464e+01 1.524e+01 9.577e+01 6.519e+02 1.132e-01 1.339e-01 9.966e-02
 7.064e-02 2.116e-01 6.346e-02 5.115e-01 7.372e-01 3.814e+00 4.276e+01
 5.508e-03 4.412e-02 4.436e-02 1.623e-02 2.427e-02 4.841e-03 1.634e+01
 1.824e+01 1.094e+02 8.036e+02 1.277e-01 3.089e-01 2.604e-01 1.397e-01
 3.151e-01 8.473e-02], Class Predicted = 1
 X372 = [9.847e+00 1.568e+01 6.300e+01 2.932e+02 9.492e-02 8.419e-02 2.330e-02
 2.416e-02 1.387e-01 6.891e-02 2.498e-01 1.216e+00 1.976e+00 1.524e+01
 8.732e-03 2.042e-02 1.062e-02 6.801e-03 1.824e-02 3.494e-03 1.124e+01
 2.299e+01 7.432e+01 3.765e+02 1.419e-01 2.243e-01 8.434e-02 6.528e-02
 2.502e-01 9.209e-02], Class Predicted = 1
 X373 = [1.026e+01 1.471e+01 6.620e+01 3.216e+02 9.882e-02 9.159e-02 3.581e-02
 2.037e-02 1.633e-01 7.005e-02 3.380e-01 2.509e+00 2.394e+00 1.933e+01
 1.736e-02 4.671e-02 2.611e-02 1.296e-02 3.675e-02 6.758e-03 1.088e+01
 1.948e+01 7.089e+01 3.571e+02 1.360e-01 1.636e-01 7.162e-02 4.074e-02
 2.434e-01 8.488e-02], Class Predicted = 1
 X374 = [1.236e+01 1.854e+01 7.901e+01 4.667e+02 8.477e-02 6.815e-02 2.643e-02
 1.921e-02 1.602e-01 6.066e-02 1.199e-01 8.944e-01 8.484e-01 9.227e+00
 3.457e-03 1.047e-02 1.167e-02 5.558e-03 1.251e-02 1.356e-03 1.329e+01
 2.749e+01 8.556e+01 5.441e+02 1.184e-01 1.963e-01 1.937e-01 8.442e-02
 2.983e-01 7.185e-02], Class Predicted = 1
 X375 = [1.768e+01 2.074e+01 1.174e+02 9.637e+02 1.115e-01 1.665e-01 1.855e-01
 1.054e-01 1.971e-01 6.166e-02 8.113e-01 1.400e+00 5.540e+00 9.391e+01
 9.037e-03 4.954e-02 5.206e-02 1.841e-02 1.778e-02 4.968e-03 2.047e+01
 2.511e+01 1.329e+02 1.302e+03 1.418e-01 3.498e-01 3.583e-01 1.515e-01
 2.463e-01 7.738e-02], Class Predicted = 0
 X376 = [1.613e+01 2.068e+01 1.081e+02 7.988e+02 1.170e-01 2.022e-01 1.722e-01
 1.028e-01 2.164e-01 7.356e-02 5.692e-01 1.073e+00 3.854e+00 5.418e+01
 7.026e-03 2.501e-02 3.188e-02 1.297e-02 1.689e-02 4.142e-03 2.096e+01
 3.148e+01 1.368e+02 1.315e+03 1.789e-01 4.233e-01 4.784e-01 2.073e-01
 3.706e-01 1.142e-01], Class Predicted = 0
 X377 = [1.719e+01 2.207e+01 1.116e+02 9.283e+02 9.726e-02 8.995e-02 9.061e-02
 6.527e-02 1.867e-01 5.580e-02 4.203e-01 7.383e-01 2.819e+00 4.542e+01
 4.493e-03 1.206e-02 2.048e-02 9.875e-03 1.144e-02 1.575e-03 2.158e+01
 2.933e+01 1.405e+02 1.436e+03 1.558e-01 2.567e-01 3.889e-01 1.984e-01
 3.216e-01 7.570e-02], Class Predicted = 0
 X378 = [1.411e+01 1.288e+01 9.003e+01 6.165e+02 9.309e-02 5.306e-02 1.765e-02
 2.733e-02 1.373e-01 5.700e-02 2.571e-01 1.081e+00 1.558e+00 2.392e+01
 6.692e-03 1.132e-02 5.717e-03 6.627e-03 1.416e-02 2.476e-03 1.553e+01
 1.800e+01 9.840e+01 7.499e+02 1.281e-01 1.109e-01 5.307e-02 5.890e-02
 2.100e-01 7.083e-02], Class Predicted = 1
 X379 = [1.060e+01 1.895e+01 6.928e+01 3.464e+02 9.688e-02 1.147e-01 6.387e-02
 2.642e-02 1.922e-01 6.491e-02 4.505e-01 1.197e+00 3.430e+00 2.710e+01
 7.470e-03 3.581e-02 3.354e-02 1.365e-02 3.504e-02 3.318e-03 1.188e+01
 2.294e+01 7.828e+01 4.248e+02 1.213e-01 2.515e-01 1.916e-01 7.926e-02
 2.940e-01 7.587e-02], Class Predicted = 1
 X380 = [1.747e+01 2.468e+01 1.161e+02 9.846e+02 1.049e-01 1.603e-01 2.159e-01
 1.043e-01 1.538e-01 6.365e-02 1.088e+00 1.410e+00 7.337e+00 1.223e+02
 6.174e-03 3.634e-02 4.644e-02 1.569e-02 1.145e-02 5.120e-03 2.314e+01
 3.233e+01 1.553e+02 1.660e+03 1.376e-01 3.830e-01 4.890e-01 1.721e-01
 2.160e-01 9.300e-02], Class Predicted = 0
 X381 = [1.200e+01 2.823e+01 7.677e+01 4.425e+02 8.437e-02 6.450e-02 4.055e-02
 1.945e-02 1.615e-01 6.104e-02 1.912e-01 1.705e+00 1.516e+00 1.386e+01
 7.334e-03 2.589e-02 2.941e-02 9.166e-03 1.745e-02 4.302e-03 1.309e+01
 3.788e+01 8.507e+01 5.237e+02 1.208e-01 1.856e-01 1.811e-01 7.116e-02
 2.447e-01 8.194e-02], Class Predicted = 1
 X382 = [1.167e+01 2.002e+01 7.521e+01 4.162e+02 1.016e-01 9.453e-02 4.200e-02
 2.157e-02 1.859e-01 6.461e-02 2.067e-01 8.745e-01 1.393e+00 1.534e+01
 5.251e-03 1.727e-02 1.840e-02 5.298e-03 1.449e-02 2.671e-03 1.335e+01
 2.881e+01 8.700e+01 5.506e+02 1.550e-01 2.964e-01 2.758e-01 8.120e-02
 3.206e-01 8.950e-02], Class Predicted = 1

X383 = [1.272e+01 1.378e+01 8.178e+01 4.921e+02 9.667e-02 8.393e-02 1.288e-02
 1.924e-02 1.638e-01 6.100e-02 1.807e-01 6.931e-01 1.340e+00 1.338e+01
 6.064e-03 1.180e-02 6.564e-03 7.978e-03 1.374e-02 1.392e-03 1.350e+01
 1.748e+01 8.854e+01 5.537e+02 1.298e-01 1.472e-01 5.233e-02 6.343e-02
 2.369e-01 6.922e-02], Class Predicted = 1
 X384 = [1.277e+01 2.247e+01 8.172e+01 5.063e+02 9.055e-02 5.761e-02 4.711e-02
 2.704e-02 1.585e-01 6.065e-02 2.367e-01 1.380e+00 1.457e+00 1.987e+01
 7.499e-03 1.202e-02 2.332e-02 8.920e-03 1.647e-02 2.629e-03 1.449e+01
 3.337e+01 9.204e+01 6.536e+02 1.419e-01 1.523e-01 2.177e-01 9.331e-02
 2.829e-01 8.067e-02], Class Predicted = 1
 X385 = [1.127e+01 1.296e+01 7.316e+01 3.863e+02 1.237e-01 1.111e-01 7.900e-02
 5.550e-02 2.018e-01 6.914e-02 2.562e-01 9.858e-01 1.809e+00 1.604e+01
 6.635e-03 1.777e-02 2.101e-02 1.164e-02 2.108e-02 3.721e-03 1.284e+01
 2.053e+01 8.493e+01 4.761e+02 1.610e-01 2.429e-01 2.247e-01 1.318e-01
 3.343e-01 9.215e-02], Class Predicted = 1
 X386 = [1.320e+01 1.743e+01 8.413e+01 5.416e+02 7.215e-02 4.524e-02 4.336e-02
 1.105e-02 1.487e-01 5.635e-02 1.630e-01 1.601e+00 8.730e-01 1.356e+01
 6.261e-03 1.569e-02 3.079e-02 5.383e-03 1.962e-02 2.250e-03 1.394e+01
 2.782e+01 8.828e+01 6.020e+02 1.101e-01 1.508e-01 2.298e-01 4.970e-02
 2.767e-01 7.198e-02], Class Predicted = 1
 X387 = [9.876e+00 1.940e+01 6.395e+01 2.983e+02 1.005e-01 9.697e-02 6.154e-02
 3.029e-02 1.945e-01 6.322e-02 1.803e-01 1.222e+00 1.528e+00 1.177e+01
 9.058e-03 2.196e-02 3.029e-02 1.112e-02 1.609e-02 3.570e-03 1.076e+01
 2.683e+01 7.222e+01 3.612e+02 1.559e-01 2.302e-01 2.644e-01 9.749e-02
 2.622e-01 8.490e-02], Class Predicted = 1
 X388 = [1.546e+01 1.189e+01 1.025e+02 7.369e+02 1.257e-01 1.555e-01 2.032e-01
 1.097e-01 1.966e-01 7.069e-02 4.209e-01 6.583e-01 2.805e+00 4.464e+01
 5.393e-03 2.321e-02 4.303e-02 1.320e-02 1.792e-02 4.168e-03 1.879e+01
 1.704e+01 1.250e+02 1.102e+03 1.531e-01 3.583e-01 5.830e-01 1.827e-01
 3.216e-01 1.010e-01], Class Predicted = 0
 X389 = [2.321e+01 2.697e+01 1.535e+02 1.670e+03 9.509e-02 1.682e-01 1.950e-01
 1.237e-01 1.909e-01 6.309e-02 1.058e+00 9.635e-01 7.247e+00 1.558e+02
 6.428e-03 2.863e-02 4.497e-02 1.716e-02 1.590e-02 3.053e-03 3.101e+01
 3.451e+01 2.060e+02 2.944e+03 1.481e-01 4.126e-01 5.820e-01 2.593e-01
 3.103e-01 8.677e-02], Class Predicted = 0
 X390 = [1.305e+01 1.859e+01 8.509e+01 5.120e+02 1.082e-01 1.304e-01 9.603e-02
 5.603e-02 2.035e-01 6.501e-02 3.106e-01 1.510e+00 2.590e+00 2.157e+01
 7.807e-03 3.932e-02 5.112e-02 1.876e-02 2.860e-02 5.715e-03 1.419e+01
 2.485e+01 9.422e+01 5.912e+02 1.343e-01 2.658e-01 2.573e-01 1.258e-01
 3.113e-01 8.317e-02], Class Predicted = 1
 X391 = [1.528e+01 2.241e+01 9.892e+01 7.106e+02 9.057e-02 1.052e-01 5.375e-02
 3.263e-02 1.727e-01 6.317e-02 2.054e-01 4.956e-01 1.344e+00 1.953e+01
 3.290e-03 1.395e-02 1.774e-02 6.009e-03 1.172e-02 2.575e-03 1.780e+01
 2.803e+01 1.138e+02 9.731e+02 1.301e-01 3.299e-01 3.630e-01 1.226e-01
 3.175e-01 9.772e-02], Class Predicted = 1
 X392 = [1.150e+01 1.845e+01 7.328e+01 4.074e+02 9.345e-02 5.991e-02 2.638e-02
 2.069e-02 1.834e-01 5.934e-02 3.927e-01 8.429e-01 2.684e+00 2.699e+01
 6.380e-03 1.065e-02 1.245e-02 9.175e-03 2.292e-02 1.461e-03 1.297e+01
 2.246e+01 8.312e+01 5.089e+02 1.183e-01 1.049e-01 8.105e-02 6.544e-02
 2.740e-01 6.487e-02], Class Predicted = 1
 X393 = [1.660e+01 2.808e+01 1.083e+02 8.581e+02 8.455e-02 1.023e-01 9.251e-02
 5.302e-02 1.590e-01 5.648e-02 4.564e-01 1.075e+00 3.425e+00 4.855e+01
 5.903e-03 3.731e-02 4.730e-02 1.557e-02 1.318e-02 3.892e-03 1.898e+01
 3.412e+01 1.267e+02 1.124e+03 1.139e-01 3.094e-01 3.403e-01 1.418e-01
 2.218e-01 7.820e-02], Class Predicted = 0
 X394 = [1.346e+01 1.875e+01 8.744e+01 5.511e+02 1.075e-01 1.138e-01 4.201e-02
 3.152e-02 1.723e-01 6.317e-02 1.998e-01 6.068e-01 1.443e+00 1.607e+01
 4.413e-03 1.443e-02 1.509e-02 7.369e-03 1.354e-02 1.787e-03 1.535e+01
 2.516e+01 1.019e+02 7.198e+02 1.624e-01 3.124e-01 2.654e-01 1.427e-01
 3.518e-01 8.665e-02], Class Predicted = 1
 X395 = [1.979e+01 2.512e+01 1.304e+02 1.192e+03 1.015e-01 1.589e-01 2.545e-01
 1.149e-01 2.202e-01 6.113e-02 4.953e-01 1.199e+00 2.765e+00 6.333e+01
 5.033e-03 3.179e-02 4.755e-02 1.043e-02 1.578e-02 3.224e-03 2.263e+01
 3.358e+01 1.487e+02 1.589e+03 1.275e-01 3.861e-01 5.673e-01 1.732e-01
 3.305e-01 8.465e-02], Class Predicted = 0
 X396 = [1.104e+01 1.493e+01 7.067e+01 3.727e+02 7.987e-02 7.079e-02 3.546e-02
 2.074e-02 2.003e-01 6.246e-02 1.642e-01 1.031e+00 1.281e+00 1.168e+01
 5.296e-03 1.903e-02 1.723e-02 6.960e-03 1.880e-02 1.941e-03 1.209e+01
 2.083e+01 7.973e+01 4.471e+02 1.095e-01 1.982e-01 1.553e-01 6.754e-02

3.202e-01 7.287e-02], Class Predicted = 1
 X397 = [1.825e+01 1.998e+01 1.196e+02 1.040e+03 9.463e-02 1.090e-01 1.127e-01
 7.400e-02 1.794e-01 5.742e-02 4.467e-01 7.732e-01 3.180e+00 5.391e+01
 4.314e-03 1.382e-02 2.254e-02 1.039e-02 1.369e-02 2.179e-03 2.288e+01
 2.766e+01 1.532e+02 1.606e+03 1.442e-01 2.576e-01 3.784e-01 1.932e-01
 3.063e-01 8.368e-02], Class Predicted = 0
 X398 = [2.522e+01 2.491e+01 1.715e+02 1.878e+03 1.063e-01 2.665e-01 3.339e-01
 1.845e-01 1.829e-01 6.782e-02 8.973e-01 1.474e+00 7.382e+00 1.200e+02
 8.166e-03 5.693e-02 5.730e-02 2.030e-02 1.065e-02 5.893e-03 3.000e+01
 3.362e+01 2.117e+02 2.562e+03 1.573e-01 6.076e-01 6.476e-01 2.867e-01
 2.355e-01 1.051e-01], Class Predicted = 0
 X399 = [1.151e+01 2.393e+01 7.452e+01 4.035e+02 9.261e-02 1.021e-01 1.112e-01
 4.105e-02 1.388e-01 6.570e-02 2.388e-01 2.904e+00 1.936e+00 1.697e+01
 8.200e-03 2.982e-02 5.738e-02 1.267e-02 1.488e-02 4.738e-03 1.248e+01
 3.716e+01 8.228e+01 4.742e+02 1.298e-01 2.517e-01 3.630e-01 9.653e-02
 2.112e-01 8.732e-02], Class Predicted = 1
 X400 = [8.597e+00 1.860e+01 5.409e+01 2.212e+02 1.074e-01 5.847e-02 0.000e+00
 0.000e+00 2.163e-01 7.359e-02 3.368e-01 2.777e+00 2.222e+00 1.781e+01
 2.075e-02 1.403e-02 0.000e+00 0.000e+00 6.146e-02 6.820e-03 8.952e+00
 2.244e+01 5.665e+01 2.401e+02 1.347e-01 7.767e-02 0.000e+00 0.000e+00
 3.142e-01 8.116e-02], Class Predicted = 1
 X401 = [6.981e+00 1.343e+01 4.379e+01 1.435e+02 1.170e-01 7.568e-02 0.000e+00
 0.000e+00 1.930e-01 7.818e-02 2.241e-01 1.508e+00 1.553e+00 9.833e+00
 1.019e-02 1.084e-02 0.000e+00 0.000e+00 2.659e-02 4.100e-03 7.930e+00
 1.954e+01 5.041e+01 1.852e+02 1.584e-01 1.202e-01 0.000e+00 0.000e+00
 2.932e-01 9.382e-02], Class Predicted = 1
 X402 = [1.474e+01 2.542e+01 9.470e+01 6.686e+02 8.275e-02 7.214e-02 4.105e-02
 3.027e-02 1.840e-01 5.680e-02 3.031e-01 1.385e+00 2.177e+00 2.741e+01
 4.775e-03 1.172e-02 1.947e-02 1.269e-02 1.870e-02 2.626e-03 1.651e+01
 3.229e+01 1.074e+02 8.264e+02 1.060e-01 1.376e-01 1.611e-01 1.095e-01
 2.722e-01 6.956e-02], Class Predicted = 1
 X403 = [1.566e+01 2.320e+01 1.102e+02 7.735e+02 1.109e-01 3.114e-01 3.176e-01
 1.377e-01 2.495e-01 8.104e-02 1.292e+00 2.454e+00 1.012e+01 1.385e+02
 1.236e-02 5.995e-02 8.232e-02 3.024e-02 2.337e-02 6.042e-03 1.985e+01
 3.164e+01 1.437e+02 1.226e+03 1.504e-01 5.172e-01 6.181e-01 2.462e-01
 3.277e-01 1.019e-01], Class Predicted = 0
 X404 = [2.329e+01 2.667e+01 1.589e+02 1.685e+03 1.141e-01 2.084e-01 3.523e-01
 1.620e-01 2.200e-01 6.229e-02 5.539e-01 1.560e+00 4.667e+00 8.316e+01
 9.327e-03 5.121e-02 8.958e-02 2.465e-02 2.175e-02 5.195e-03 2.512e+01
 3.268e+01 1.770e+02 1.986e+03 1.536e-01 4.167e-01 7.892e-01 2.733e-01
 3.198e-01 8.762e-02], Class Predicted = 0
 X405 = [1.320e+01 1.582e+01 8.407e+01 5.373e+02 8.511e-02 5.251e-02 1.461e-03
 3.261e-03 1.632e-01 5.894e-02 1.903e-01 5.735e-01 1.204e+00 1.550e+01
 3.632e-03 7.861e-03 1.128e-03 2.386e-03 1.344e-02 2.585e-03 1.441e+01
 2.045e+01 9.200e+01 6.369e+02 1.128e-01 1.346e-01 1.120e-02 2.500e-02
 2.651e-01 8.385e-02], Class Predicted = 1
 X406 = [1.057e+01 1.832e+01 6.682e+01 3.409e+02 8.142e-02 4.462e-02 1.993e-02
 1.111e-02 2.372e-01 5.768e-02 1.818e-01 2.542e+00 1.277e+00 1.312e+01
 1.072e-02 1.331e-02 1.993e-02 1.111e-02 1.717e-02 4.492e-03 1.094e+01
 2.331e+01 6.935e+01 3.663e+02 9.794e-02 6.542e-02 3.986e-02 2.222e-02
 2.699e-01 6.736e-02], Class Predicted = 1
 X407 = [9.268e+00 1.287e+01 6.149e+01 2.487e+02 1.634e-01 2.239e-01 9.730e-02
 5.252e-02 2.378e-01 9.502e-02 4.076e-01 1.093e+00 3.014e+00 2.004e+01
 9.783e-03 4.542e-02 3.483e-02 2.188e-02 2.542e-02 1.045e-02 1.028e+01
 1.638e+01 6.905e+01 3.002e+02 1.902e-01 3.441e-01 2.099e-01 1.025e-01
 3.038e-01 1.252e-01], Class Predicted = 1
 X408 = [1.973e+01 1.982e+01 1.307e+02 1.206e+03 1.062e-01 1.849e-01 2.417e-01
 9.740e-02 1.733e-01 6.697e-02 7.661e-01 7.800e-01 4.115e+00 9.281e+01
 8.482e-03 5.057e-02 6.800e-02 1.971e-02 1.467e-02 7.259e-03 2.528e+01
 2.559e+01 1.598e+02 1.933e+03 1.710e-01 5.955e-01 8.489e-01 2.507e-01
 2.749e-01 1.297e-01], Class Predicted = 0
 X409 = [1.434e+01 1.347e+01 9.251e+01 6.412e+02 9.906e-02 7.624e-02 5.724e-02
 4.603e-02 2.075e-01 5.448e-02 5.220e-01 8.121e-01 3.763e+00 4.829e+01
 7.089e-03 1.428e-02 2.360e-02 1.286e-02 2.266e-02 1.463e-03 1.677e+01
 1.690e+01 1.104e+02 8.732e+02 1.297e-01 1.525e-01 1.632e-01 1.087e-01
 3.062e-01 6.072e-02], Class Predicted = 1
 X410 = [1.742e+01 2.556e+01 1.145e+02 9.480e+02 1.006e-01 1.146e-01 1.682e-01
 6.597e-02 1.308e-01 5.866e-02 5.296e-01 1.667e+00 3.767e+00 5.853e+01
 3.113e-02 8.555e-02 1.438e-01 3.927e-02 2.175e-02 1.256e-02 1.807e+01

2.807e+01 1.204e+02 1.021e+03 1.243e-01 1.793e-01 2.803e-01 1.099e-01
 1.603e-01 6.818e-02], Class Predicted = 0
 X411 = [1.386e+01 1.693e+01 9.096e+01 5.789e+02 1.026e-01 1.517e-01 9.901e-02
 5.602e-02 2.106e-01 6.916e-02 2.563e-01 1.194e+00 1.933e+00 2.269e+01
 5.960e-03 3.438e-02 3.909e-02 1.435e-02 1.939e-02 4.560e-03 1.575e+01
 2.693e+01 1.044e+02 7.501e+02 1.460e-01 4.370e-01 4.636e-01 1.654e-01
 3.630e-01 1.059e-01], Class Predicted = 1
 X412 = [1.104e+01 1.683e+01 7.092e+01 3.732e+02 1.077e-01 7.804e-02 3.046e-02
 2.480e-02 1.714e-01 6.340e-02 1.967e-01 1.387e+00 1.342e+00 1.354e+01
 5.158e-03 9.355e-03 1.056e-02 7.483e-03 1.718e-02 2.198e-03 1.241e+01
 2.644e+01 7.993e+01 4.714e+02 1.369e-01 1.482e-01 1.067e-01 7.431e-02
 2.998e-01 7.881e-02], Class Predicted = 1
 X413 = [1.328e+01 2.028e+01 8.732e+01 5.452e+02 1.041e-01 1.436e-01 9.847e-02
 6.158e-02 1.974e-01 6.782e-02 3.704e-01 8.249e-01 2.427e+00 3.133e+01
 5.072e-03 2.147e-02 2.185e-02 9.560e-03 1.719e-02 3.317e-03 1.738e+01
 2.800e+01 1.131e+02 9.072e+02 1.530e-01 3.724e-01 3.664e-01 1.492e-01
 3.739e-01 1.027e-01], Class Predicted = 1
 X414 = [1.206e+01 1.274e+01 7.684e+01 4.486e+02 9.311e-02 5.241e-02 1.972e-02
 1.963e-02 1.590e-01 5.907e-02 1.822e-01 7.285e-01 1.171e+00 1.325e+01
 5.528e-03 9.789e-03 8.342e-03 6.273e-03 1.465e-02 2.530e-03 1.314e+01
 1.841e+01 8.408e+01 5.328e+02 1.275e-01 1.232e-01 8.636e-02 7.025e-02
 2.514e-01 7.898e-02], Class Predicted = 1
 X415 = [1.005e+01 1.753e+01 6.441e+01 3.108e+02 1.007e-01 7.326e-02 2.511e-02
 1.775e-02 1.890e-01 6.331e-02 2.619e-01 2.015e+00 1.778e+00 1.685e+01
 7.803e-03 1.449e-02 1.690e-02 8.043e-03 2.100e-02 2.778e-03 1.116e+01
 2.684e+01 7.198e+01 3.840e+02 1.402e-01 1.402e-01 1.055e-01 6.499e-02
 2.894e-01 7.664e-02], Class Predicted = 1
 X416 = [9.667e+00 1.849e+01 6.149e+01 2.891e+02 8.946e-02 6.258e-02 2.948e-02
 1.514e-02 2.238e-01 6.413e-02 3.776e-01 1.350e+00 2.569e+00 2.273e+01
 7.501e-03 1.989e-02 2.714e-02 9.883e-03 1.960e-02 3.913e-03 1.114e+01
 2.562e+01 7.088e+01 3.852e+02 1.234e-01 1.542e-01 1.277e-01 6.560e-02
 3.174e-01 8.524e-02], Class Predicted = 1
 X417 = [9.742e+00 1.567e+01 6.150e+01 2.899e+02 9.037e-02 4.689e-02 1.103e-02
 1.407e-02 2.081e-01 6.312e-02 2.684e-01 1.409e+00 1.750e+00 1.639e+01
 1.380e-02 1.067e-02 8.347e-03 9.472e-03 1.798e-02 4.261e-03 1.075e+01
 2.088e+01 6.809e+01 3.552e+02 1.467e-01 9.370e-02 4.043e-02 5.159e-02
 2.841e-01 8.175e-02], Class Predicted = 1
 X418 = [1.008e+01 1.511e+01 6.376e+01 3.175e+02 9.267e-02 4.695e-02 1.597e-03
 2.404e-03 1.703e-01 6.048e-02 4.245e-01 1.268e+00 2.680e+00 2.643e+01
 1.439e-02 1.200e-02 1.597e-03 2.404e-03 2.538e-02 3.470e-03 1.187e+01
 2.118e+01 7.539e+01 4.370e+02 1.521e-01 1.019e-01 6.920e-03 1.042e-02
 2.933e-01 7.697e-02], Class Predicted = 1
 X419 = [2.031e+01 2.706e+01 1.329e+02 1.288e+03 1.000e-01 1.088e-01 1.519e-01
 9.333e-02 1.814e-01 5.572e-02 3.977e-01 1.033e+00 2.587e+00 5.234e+01
 5.043e-03 1.578e-02 2.117e-02 8.185e-03 1.282e-02 1.892e-03 2.433e+01
 3.916e+01 1.623e+02 1.844e+03 1.522e-01 2.945e-01 3.788e-01 1.697e-01
 3.151e-01 7.999e-02], Class Predicted = 0
 X420 = [1.242e+01 1.504e+01 7.861e+01 4.765e+02 7.926e-02 3.393e-02 1.053e-02
 1.108e-02 1.546e-01 5.754e-02 1.153e-01 6.745e-01 7.570e-01 9.006e+00
 3.265e-03 4.930e-03 6.493e-03 3.762e-03 1.720e-02 1.360e-03 1.320e+01
 2.037e+01 8.385e+01 5.434e+02 1.037e-01 7.776e-02 6.243e-02 4.052e-02
 2.901e-01 6.783e-02], Class Predicted = 1
 X421 = [1.327e+01 1.476e+01 8.474e+01 5.517e+02 7.355e-02 5.055e-02 3.261e-02
 2.648e-02 1.386e-01 5.318e-02 4.057e-01 1.153e+00 2.701e+00 3.635e+01
 4.481e-03 1.038e-02 1.358e-02 1.082e-02 1.069e-02 1.435e-03 1.636e+01
 2.235e+01 1.045e+02 8.306e+02 1.006e-01 1.238e-01 1.350e-01 1.001e-01
 2.027e-01 6.206e-02], Class Predicted = 1
 X422 = [1.254e+01 1.807e+01 7.942e+01 4.919e+02 7.436e-02 2.650e-02 1.194e-03
 5.449e-03 1.528e-01 5.185e-02 3.511e-01 9.527e-01 2.329e+00 2.830e+01
 5.783e-03 4.693e-03 7.929e-04 3.617e-03 2.043e-02 1.058e-03 1.372e+01
 2.098e+01 8.682e+01 5.857e+02 9.293e-02 4.327e-02 3.581e-03 1.635e-02
 2.233e-01 5.521e-02], Class Predicted = 1
 X423 = [1.549e+01 1.997e+01 1.024e+02 7.447e+02 1.160e-01 1.562e-01 1.891e-01
 9.113e-02 1.929e-01 6.744e-02 6.470e-01 1.331e+00 4.675e+00 6.691e+01
 7.269e-03 2.928e-02 4.972e-02 1.639e-02 1.852e-02 4.232e-03 2.120e+01
 2.941e+01 1.421e+02 1.359e+03 1.681e-01 3.913e-01 5.553e-01 2.121e-01
 3.187e-01 1.019e-01], Class Predicted = 0
 X424 = [1.665e+01 2.138e+01 1.100e+02 9.046e+02 1.121e-01 1.457e-01 1.525e-01
 9.170e-02 1.995e-01 6.330e-02 8.068e-01 9.017e-01 5.455e+00 1.026e+02

6.048e-03 1.882e-02 2.741e-02 1.130e-02 1.468e-02 2.801e-03 2.646e+01
 3.156e+01 1.770e+02 2.215e+03 1.805e-01 3.578e-01 4.695e-01 2.095e-01
 3.613e-01 9.564e-02], Class Predicted = 0
 X425 = [1.170e+01 1.911e+01 7.433e+01 4.187e+02 8.814e-02 5.253e-02 1.583e-02
 1.148e-02 1.936e-01 6.128e-02 1.601e-01 1.430e+00 1.109e+00 1.128e+01
 6.064e-03 9.110e-03 1.042e-02 7.638e-03 2.349e-02 1.661e-03 1.261e+01
 2.655e+01 8.092e+01 4.831e+02 1.223e-01 1.087e-01 7.915e-02 5.741e-02
 3.487e-01 6.958e-02], Class Predicted = 1
 X426 = [1.805e+01 1.615e+01 1.202e+02 1.006e+03 1.065e-01 2.146e-01 1.684e-01
 1.080e-01 2.152e-01 6.673e-02 9.806e-01 5.505e-01 6.311e+00 1.348e+02
 7.940e-03 5.839e-02 4.658e-02 2.070e-02 2.591e-02 7.054e-03 2.239e+01
 1.891e+01 1.501e+02 1.610e+03 1.478e-01 5.634e-01 3.786e-01 2.102e-01
 3.751e-01 1.108e-01], Class Predicted = 0
 X427 = [1.193e+01 1.091e+01 7.614e+01 4.427e+02 8.872e-02 5.242e-02 2.606e-02
 1.796e-02 1.601e-01 5.541e-02 2.522e-01 1.045e+00 1.649e+00 1.895e+01
 6.175e-03 1.204e-02 1.376e-02 5.832e-03 1.096e-02 1.857e-03 1.380e+01
 2.014e+01 8.764e+01 5.895e+02 1.374e-01 1.575e-01 1.514e-01 6.876e-02
 2.460e-01 7.262e-02], Class Predicted = 1
 X428 = [1.206e+01 1.890e+01 7.666e+01 4.453e+02 8.386e-02 5.794e-02 7.510e-03
 8.488e-03 1.555e-01 6.048e-02 2.430e-01 1.152e+00 1.559e+00 1.802e+01
 7.180e-03 1.096e-02 5.832e-03 5.495e-03 1.982e-02 2.754e-03 1.364e+01
 2.706e+01 8.654e+01 5.626e+02 1.289e-01 1.352e-01 4.506e-02 5.093e-02
 2.880e-01 8.083e-02], Class Predicted = 1
 X429 = [8.219e+00 2.070e+01 5.327e+01 2.039e+02 9.405e-02 1.305e-01 1.321e-01
 2.168e-02 2.222e-01 8.261e-02 1.935e-01 1.962e+00 1.243e+00 1.021e+01
 1.243e-02 5.416e-02 7.753e-02 1.022e-02 2.309e-02 1.178e-02 9.092e+00
 2.972e+01 5.808e+01 2.498e+02 1.630e-01 4.310e-01 5.381e-01 7.879e-02
 3.322e-01 1.486e-01], Class Predicted = 1
 X430 = [1.822e+01 1.870e+01 1.203e+02 1.033e+03 1.148e-01 1.485e-01 1.772e-01
 1.060e-01 2.092e-01 6.310e-02 8.337e-01 1.593e+00 4.877e+00 9.881e+01
 3.899e-03 2.961e-02 2.817e-02 9.222e-03 2.674e-02 5.126e-03 2.060e+01
 2.413e+01 1.351e+02 1.321e+03 1.280e-01 2.297e-01 2.623e-01 1.325e-01
 3.021e-01 7.987e-02], Class Predicted = 0
 X431 = [1.258e+01 1.840e+01 7.983e+01 4.890e+02 8.393e-02 4.216e-02 1.860e-03
 2.924e-03 1.697e-01 5.855e-02 2.719e-01 1.350e+00 1.721e+00 2.245e+01
 6.383e-03 8.008e-03 1.860e-03 2.924e-03 2.571e-02 2.015e-03 1.350e+01
 2.308e+01 8.556e+01 5.641e+02 1.038e-01 6.624e-02 5.579e-03 8.772e-03
 2.505e-01 6.431e-02], Class Predicted = 1
 X432 = [1.108e+01 1.471e+01 7.021e+01 3.727e+02 1.006e-01 5.743e-02 2.363e-02
 2.583e-02 1.566e-01 6.669e-02 2.073e-01 1.805e+00 1.377e+00 1.908e+01
 1.496e-02 2.121e-02 1.453e-02 1.583e-02 3.082e-02 4.785e-03 1.135e+01
 1.682e+01 7.201e+01 3.965e+02 1.216e-01 8.240e-02 3.938e-02 4.306e-02
 1.902e-01 7.313e-02], Class Predicted = 1
 X433 = [1.246e+01 2.404e+01 8.397e+01 4.759e+02 1.186e-01 2.396e-01 2.273e-01
 8.543e-02 2.030e-01 8.243e-02 2.976e-01 1.599e+00 2.039e+00 2.394e+01
 7.149e-03 7.217e-02 7.743e-02 1.432e-02 1.789e-02 1.008e-02 1.509e+01
 4.068e+01 9.765e+01 7.114e+02 1.853e-01 1.058e+00 1.105e+00 2.210e-01
 4.366e-01 2.075e-01], Class Predicted = 0
 X434 = [1.757e+01 1.505e+01 1.150e+02 9.551e+02 9.847e-02 1.157e-01 9.875e-02
 7.953e-02 1.739e-01 6.149e-02 6.003e-01 8.225e-01 4.655e+00 6.110e+01
 5.627e-03 3.033e-02 3.407e-02 1.354e-02 1.925e-02 3.742e-03 2.001e+01
 1.952e+01 1.349e+02 1.227e+03 1.255e-01 2.812e-01 2.489e-01 1.456e-01
 2.756e-01 7.919e-02], Class Predicted = 0
 X435 = [1.300e+01 2.078e+01 8.351e+01 5.194e+02 1.135e-01 7.589e-02 3.136e-02
 2.645e-02 2.540e-01 6.087e-02 4.202e-01 1.322e+00 2.873e+00 3.478e+01
 7.017e-03 1.142e-02 1.949e-02 1.153e-02 2.951e-02 1.533e-03 1.416e+01
 2.411e+01 9.082e+01 6.167e+02 1.297e-01 1.105e-01 8.112e-02 6.296e-02
 3.196e-01 6.435e-02], Class Predicted = 1
 X436 = [1.141e+01 1.492e+01 7.353e+01 4.020e+02 9.059e-02 8.155e-02 6.181e-02
 2.361e-02 1.167e-01 6.217e-02 3.344e-01 1.108e+00 1.902e+00 2.277e+01
 7.356e-03 3.728e-02 5.915e-02 1.712e-02 2.165e-02 4.784e-03 1.237e+01
 1.770e+01 7.912e+01 4.672e+02 1.121e-01 1.610e-01 1.648e-01 6.296e-02
 1.811e-01 7.427e-02], Class Predicted = 1
 X437 = [1.234e+01 1.227e+01 7.894e+01 4.685e+02 9.003e-02 6.307e-02 2.958e-02
 2.647e-02 1.689e-01 5.808e-02 1.166e-01 4.957e-01 7.714e-01 8.955e+00
 3.681e-03 9.169e-03 8.732e-03 5.740e-03 1.129e-02 1.366e-03 1.361e+01
 1.927e+01 8.722e+01 5.649e+02 1.292e-01 2.074e-01 1.791e-01 1.070e-01
 3.110e-01 7.592e-02], Class Predicted = 1
 X438 = [1.359e+01 1.784e+01 8.624e+01 5.723e+02 7.948e-02 4.052e-02 1.997e-02

1.238e-02 1.573e-01 5.520e-02 2.580e-01 1.166e+00 1.683e+00 2.222e+01
 3.741e-03 5.274e-03 1.065e-02 5.044e-03 1.344e-02 1.126e-03 1.550e+01
 2.610e+01 9.891e+01 7.391e+02 1.050e-01 7.622e-02 1.060e-01 5.185e-02
 2.335e-01 6.263e-02], Class Predicted = 1
 X439 = [1.086e+01 2.148e+01 6.851e+01 3.605e+02 7.431e-02 4.227e-02 0.000e+00
 0.000e+00 1.661e-01 5.948e-02 3.163e-01 1.304e+00 2.115e+00 2.067e+01
 9.579e-03 1.104e-02 0.000e+00 0.000e+00 3.004e-02 2.228e-03 1.166e+01
 2.477e+01 7.408e+01 4.123e+02 1.001e-01 7.348e-02 0.000e+00 0.000e+00
 2.458e-01 6.592e-02], Class Predicted = 1
 X440 = [1.442e+01 1.977e+01 9.448e+01 6.425e+02 9.752e-02 1.141e-01 9.388e-02
 5.839e-02 1.879e-01 6.390e-02 2.895e-01 1.851e+00 2.376e+00 2.685e+01
 8.005e-03 2.895e-02 3.321e-02 1.424e-02 1.462e-02 4.452e-03 1.633e+01
 3.086e+01 1.095e+02 8.264e+02 1.431e-01 3.026e-01 3.194e-01 1.565e-01
 2.718e-01 9.353e-02], Class Predicted = 1
 X441 = [1.578e+01 2.291e+01 1.057e+02 7.826e+02 1.155e-01 1.752e-01 2.133e-01
 9.479e-02 2.096e-01 7.331e-02 5.520e-01 1.072e+00 3.598e+00 5.863e+01
 8.699e-03 3.976e-02 5.950e-02 1.390e-02 1.495e-02 5.984e-03 2.019e+01
 3.050e+01 1.303e+02 1.272e+03 1.855e-01 4.925e-01 7.356e-01 2.034e-01
 3.274e-01 1.252e-01], Class Predicted = 0
 X442 = [1.127e+01 1.550e+01 7.338e+01 3.920e+02 8.365e-02 1.114e-01 1.007e-01
 2.757e-02 1.810e-01 7.252e-02 3.305e-01 1.067e+00 2.569e+00 2.297e+01
 1.038e-02 6.669e-02 9.472e-02 2.047e-02 1.219e-02 1.233e-02 1.204e+01
 1.893e+01 7.973e+01 4.500e+02 1.102e-01 2.809e-01 3.021e-01 8.272e-02
 2.157e-01 1.043e-01], Class Predicted = 1
 X443 = [1.321e+01 2.806e+01 8.488e+01 5.384e+02 8.671e-02 6.877e-02 2.987e-02
 3.275e-02 1.628e-01 5.781e-02 2.351e-01 1.597e+00 1.539e+00 1.785e+01
 4.973e-03 1.372e-02 1.498e-02 9.117e-03 1.724e-02 1.343e-03 1.437e+01
 3.717e+01 9.248e+01 6.296e+02 1.072e-01 1.381e-01 1.062e-01 7.958e-02
 2.473e-01 6.443e-02], Class Predicted = 1
 X444 = [1.510e+01 1.639e+01 9.958e+01 6.745e+02 1.150e-01 1.807e-01 1.138e-01
 8.534e-02 2.001e-01 6.467e-02 4.309e-01 1.068e+00 2.796e+00 3.984e+01
 9.006e-03 4.185e-02 3.204e-02 2.258e-02 2.353e-02 4.984e-03 1.611e+01
 1.833e+01 1.059e+02 7.626e+02 1.386e-01 2.883e-01 1.960e-01 1.423e-01
 2.590e-01 7.779e-02], Class Predicted = 1
 X445 = [1.268e+01 2.384e+01 8.269e+01 4.990e+02 1.122e-01 1.262e-01 1.128e-01
 6.873e-02 1.905e-01 6.590e-02 4.255e-01 1.178e+00 2.927e+00 3.646e+01
 7.781e-03 2.648e-02 2.973e-02 1.290e-02 1.635e-02 3.601e-03 1.709e+01
 3.347e+01 1.118e+02 8.883e+02 1.851e-01 4.061e-01 4.024e-01 1.716e-01
 3.383e-01 1.031e-01], Class Predicted = 0
 X446 = [9.606e+00 1.684e+01 6.164e+01 2.805e+02 8.481e-02 9.228e-02 8.422e-02
 2.292e-02 2.036e-01 7.125e-02 1.844e-01 9.429e-01 1.429e+00 1.207e+01
 5.954e-03 3.471e-02 5.028e-02 8.510e-03 1.750e-02 4.031e-03 1.075e+01
 2.307e+01 7.125e+01 3.536e+02 1.233e-01 3.416e-01 4.341e-01 8.120e-02
 2.982e-01 9.825e-02], Class Predicted = 1
 X447 = [1.205e+01 2.272e+01 7.875e+01 4.478e+02 6.935e-02 1.073e-01 7.943e-02
 2.978e-02 1.203e-01 6.659e-02 1.194e-01 1.434e+00 1.778e+00 9.549e+00
 5.042e-03 4.560e-02 4.305e-02 1.667e-02 2.470e-02 7.358e-03 1.257e+01
 2.871e+01 8.736e+01 4.884e+02 8.799e-02 3.214e-01 2.912e-01 1.092e-01
 2.191e-01 9.349e-02], Class Predicted = 1
 X448 = [1.029e+01 2.761e+01 6.567e+01 3.214e+02 9.030e-02 7.658e-02 5.999e-02
 2.738e-02 1.593e-01 6.127e-02 2.199e-01 2.239e+00 1.437e+00 1.446e+01
 1.205e-02 2.736e-02 4.804e-02 1.721e-02 1.843e-02 4.938e-03 1.084e+01
 3.491e+01 6.957e+01 3.576e+02 1.384e-01 1.710e-01 2.000e-01 9.127e-02
 2.226e-01 8.283e-02], Class Predicted = 1
 X449 = [1.200e+01 1.565e+01 7.695e+01 4.433e+02 9.723e-02 7.165e-02 4.151e-02
 1.863e-02 2.079e-01 5.968e-02 2.271e-01 1.255e+00 1.441e+00 1.616e+01
 5.969e-03 1.812e-02 2.007e-02 7.027e-03 1.972e-02 2.607e-03 1.367e+01
 2.490e+01 8.778e+01 5.679e+02 1.377e-01 2.003e-01 2.267e-01 7.632e-02
 3.379e-01 7.924e-02], Class Predicted = 1
 X450 = [2.018e+01 2.397e+01 1.437e+02 1.245e+03 1.286e-01 3.454e-01 3.754e-01
 1.604e-01 2.906e-01 8.142e-02 9.317e-01 1.885e+00 8.649e+00 1.164e+02
 1.038e-02 6.835e-02 1.091e-01 2.593e-02 7.895e-02 5.987e-03 2.337e+01
 3.172e+01 1.703e+02 1.623e+03 1.639e-01 6.164e-01 7.681e-01 2.508e-01
 5.440e-01 9.964e-02], Class Predicted = 0
 X451 = [1.480e+01 1.766e+01 9.588e+01 6.748e+02 9.179e-02 8.890e-02 4.069e-02
 2.260e-02 1.893e-01 5.886e-02 2.204e-01 6.221e-01 1.482e+00 1.975e+01
 4.796e-03 1.171e-02 1.758e-02 6.897e-03 2.254e-02 1.971e-03 1.643e+01
 2.274e+01 1.059e+02 8.295e+02 1.226e-01 1.881e-01 2.060e-01 8.308e-02
 3.600e-01 7.285e-02], Class Predicted = 1

X452 = [1.955e+01 2.321e+01 1.289e+02 1.174e+03 1.010e-01 1.318e-01 1.856e-01
 1.021e-01 1.989e-01 5.884e-02 6.107e-01 2.836e+00 5.383e+00 7.010e+01
 1.124e-02 4.097e-02 7.469e-02 3.441e-02 2.768e-02 6.240e-03 2.082e+01
 3.044e+01 1.420e+02 1.313e+03 1.251e-01 2.414e-01 3.829e-01 1.825e-01
 2.576e-01 7.602e-02], Class Predicted = 0
 X453 = [1.122e+01 1.986e+01 7.194e+01 3.873e+02 1.054e-01 6.779e-02 5.006e-03
 7.583e-03 1.940e-01 6.028e-02 2.976e-01 1.966e+00 1.959e+00 1.962e+01
 1.289e-02 1.104e-02 3.297e-03 4.967e-03 4.243e-02 1.963e-03 1.198e+01
 2.578e+01 7.691e+01 4.361e+02 1.424e-01 9.669e-02 1.335e-02 2.022e-02
 3.292e-01 6.522e-02], Class Predicted = 1
 X454 = [8.734e+00 1.684e+01 5.527e+01 2.343e+02 1.039e-01 7.428e-02 0.000e+00
 0.000e+00 1.985e-01 7.098e-02 5.169e-01 2.079e+00 3.167e+00 2.885e+01
 1.582e-02 1.966e-02 0.000e+00 0.000e+00 1.865e-02 6.736e-03 1.017e+01
 2.280e+01 6.401e+01 3.170e+02 1.460e-01 1.310e-01 0.000e+00 0.000e+00
 2.445e-01 8.865e-02], Class Predicted = 1
 X455 = [1.917e+01 2.480e+01 1.324e+02 1.123e+03 9.740e-02 2.458e-01 2.065e-01
 1.118e-01 2.397e-01 7.800e-02 9.555e-01 3.568e+00 1.107e+01 1.162e+02
 3.139e-03 8.297e-02 8.890e-02 4.090e-02 4.484e-02 1.284e-02 2.096e+01
 2.994e+01 1.517e+02 1.332e+03 1.037e-01 3.903e-01 3.639e-01 1.767e-01
 3.176e-01 1.023e-01], Class Predicted = 0
 X456 = [1.385e+01 1.721e+01 8.844e+01 5.887e+02 8.785e-02 6.136e-02 1.420e-02
 1.141e-02 1.614e-01 5.890e-02 2.185e-01 8.561e-01 1.495e+00 1.791e+01
 4.599e-03 9.169e-03 9.127e-03 4.814e-03 1.247e-02 1.708e-03 1.549e+01
 2.358e+01 1.003e+02 7.259e+02 1.157e-01 1.350e-01 8.115e-02 5.104e-02
 2.364e-01 7.182e-02], Class Predicted = 1
 X457 = [1.106e+01 1.712e+01 7.125e+01 3.665e+02 1.194e-01 1.071e-01 4.063e-02
 4.268e-02 1.954e-01 7.976e-02 1.779e-01 1.030e+00 1.318e+00 1.230e+01
 1.262e-02 2.348e-02 1.800e-02 1.285e-02 2.220e-02 8.313e-03 1.169e+01
 2.074e+01 7.608e+01 4.111e+02 1.662e-01 2.031e-01 1.256e-01 9.514e-02
 2.780e-01 1.168e-01], Class Predicted = 1
 X458 = [1.669e+01 2.020e+01 1.071e+02 8.576e+02 7.497e-02 7.112e-02 3.649e-02
 2.307e-02 1.846e-01 5.325e-02 2.473e-01 5.679e-01 1.775e+00 2.295e+01
 2.667e-03 1.446e-02 1.423e-02 5.297e-03 1.961e-02 1.700e-03 1.918e+01
 2.656e+01 1.273e+02 1.084e+03 1.009e-01 2.920e-01 2.477e-01 8.737e-02
 4.677e-01 7.623e-02], Class Predicted = 0
 X459 = [9.720e+00 1.822e+01 6.073e+01 2.881e+02 6.950e-02 2.344e-02 0.000e+00
 0.000e+00 1.653e-01 6.447e-02 3.539e-01 4.885e+00 2.230e+00 2.169e+01
 1.713e-03 6.736e-03 0.000e+00 0.000e+00 3.799e-02 1.688e-03 9.968e+00
 2.083e+01 6.225e+01 3.038e+02 7.117e-02 2.729e-02 0.000e+00 0.000e+00
 1.909e-01 6.559e-02], Class Predicted = 1
 X460 = [1.298e+01 1.935e+01 8.452e+01 5.140e+02 9.579e-02 1.125e-01 7.107e-02
 2.950e-02 1.761e-01 6.540e-02 2.684e-01 5.664e-01 2.465e+00 2.065e+01
 5.727e-03 3.255e-02 4.393e-02 9.811e-03 2.751e-02 4.572e-03 1.442e+01
 2.195e+01 9.921e+01 6.343e+02 1.288e-01 3.253e-01 3.439e-01 9.858e-02
 3.596e-01 9.166e-02], Class Predicted = 1
 X461 = [2.048e+01 2.146e+01 1.325e+02 1.306e+03 8.355e-02 8.348e-02 9.042e-02
 6.022e-02 1.467e-01 5.177e-02 6.874e-01 1.041e+00 5.144e+00 8.350e+01
 7.959e-03 3.133e-02 4.257e-02 1.671e-02 1.341e-02 3.933e-03 2.422e+01
 2.617e+01 1.617e+02 1.750e+03 1.228e-01 2.311e-01 3.158e-01 1.445e-01
 2.238e-01 7.127e-02], Class Predicted = 0
 X462 = [1.016e+01 1.959e+01 6.473e+01 3.117e+02 1.003e-01 7.504e-02 5.025e-03
 1.116e-02 1.791e-01 6.331e-02 2.441e-01 2.090e+00 1.648e+00 1.680e+01
 1.291e-02 2.222e-02 4.174e-03 7.082e-03 2.572e-02 2.278e-03 1.065e+01
 2.288e+01 6.788e+01 3.473e+02 1.265e-01 1.200e-01 1.005e-02 2.232e-02
 2.262e-01 6.742e-02], Class Predicted = 1
 X463 = [1.385e+01 1.960e+01 8.868e+01 5.926e+02 8.684e-02 6.330e-02 1.342e-02
 2.293e-02 1.555e-01 5.673e-02 3.419e-01 1.678e+00 2.331e+00 2.963e+01
 5.836e-03 1.095e-02 5.812e-03 7.039e-03 2.014e-02 2.326e-03 1.563e+01
 2.801e+01 1.009e+02 7.491e+02 1.118e-01 1.141e-01 4.753e-02 5.890e-02
 2.513e-01 6.911e-02], Class Predicted = 1
 X464 = [1.321e+01 2.525e+01 8.410e+01 5.379e+02 8.791e-02 5.205e-02 2.772e-02
 2.068e-02 1.619e-01 5.584e-02 2.084e-01 1.350e+00 1.314e+00 1.758e+01
 5.768e-03 8.082e-03 1.510e-02 6.451e-03 1.347e-02 1.828e-03 1.435e+01
 3.423e+01 9.129e+01 6.329e+02 1.289e-01 1.063e-01 1.390e-01 6.005e-02
 2.444e-01 6.788e-02], Class Predicted = 1
 X465 = [1.113e+01 1.662e+01 7.047e+01 3.811e+02 8.151e-02 3.834e-02 1.369e-02
 1.370e-02 1.511e-01 6.148e-02 1.415e-01 9.671e-01 9.680e-01 9.704e+00
 5.883e-03 6.263e-03 9.398e-03 6.189e-03 2.009e-02 2.377e-03 1.168e+01
 2.029e+01 7.435e+01 4.211e+02 1.030e-01 6.219e-02 4.580e-02 4.044e-02

2.383e-01 7.083e-02], Class Predicted = 1
 X466 = [1.861e+01 2.025e+01 1.221e+02 1.094e+03 9.440e-02 1.066e-01 1.490e-01
 7.731e-02 1.697e-01 5.699e-02 8.529e-01 1.849e+00 5.632e+00 9.354e+01
 1.075e-02 2.722e-02 5.081e-02 1.911e-02 2.293e-02 4.217e-03 2.131e+01
 2.726e+01 1.399e+02 1.403e+03 1.338e-01 2.117e-01 3.446e-01 1.490e-01
 2.341e-01 7.421e-02], Class Predicted = 0
 X467 = [1.324e+01 2.013e+01 8.687e+01 5.429e+02 8.284e-02 1.223e-01 1.010e-01
 2.833e-02 1.601e-01 6.432e-02 2.810e-01 8.135e-01 3.369e+00 2.381e+01
 4.929e-03 6.657e-02 7.683e-02 1.368e-02 1.526e-02 8.133e-03 1.544e+01
 2.550e+01 1.150e+02 7.335e+02 1.201e-01 5.646e-01 6.556e-01 1.357e-01
 2.845e-01 1.249e-01], Class Predicted = 0
 X468 = [1.225e+01 1.794e+01 7.827e+01 4.603e+02 8.654e-02 6.679e-02 3.885e-02
 2.331e-02 1.970e-01 6.228e-02 2.200e-01 9.823e-01 1.484e+00 1.651e+01
 5.518e-03 1.562e-02 1.994e-02 7.924e-03 1.799e-02 2.484e-03 1.359e+01
 2.522e+01 8.660e+01 5.642e+02 1.217e-01 1.788e-01 1.943e-01 8.211e-02
 3.113e-01 8.132e-02], Class Predicted = 1
 X469 = [1.025e+01 1.618e+01 6.652e+01 3.242e+02 1.061e-01 1.111e-01 6.726e-02
 3.965e-02 1.743e-01 7.279e-02 3.677e-01 1.471e+00 1.597e+00 2.268e+01
 1.049e-02 4.265e-02 4.004e-02 1.544e-02 2.719e-02 7.596e-03 1.128e+01
 2.061e+01 7.153e+01 3.904e+02 1.402e-01 2.360e-01 1.898e-01 9.744e-02
 2.608e-01 9.702e-02], Class Predicted = 1
 X470 = [1.500e+01 1.551e+01 9.745e+01 6.845e+02 8.371e-02 1.096e-01 6.505e-02
 3.780e-02 1.881e-01 5.907e-02 2.318e-01 4.966e-01 2.276e+00 1.988e+01
 4.119e-03 3.207e-02 3.644e-02 1.155e-02 1.391e-02 3.204e-03 1.641e+01
 1.931e+01 1.142e+02 8.082e+02 1.136e-01 3.627e-01 3.402e-01 1.379e-01
 2.954e-01 8.362e-02], Class Predicted = 1
 X471 = [1.497e+01 1.695e+01 9.622e+01 6.859e+02 9.855e-02 7.885e-02 2.602e-02
 3.781e-02 1.780e-01 5.650e-02 2.713e-01 1.217e+00 1.893e+00 2.428e+01
 5.080e-03 1.370e-02 7.276e-03 9.073e-03 1.350e-02 1.706e-03 1.611e+01
 2.300e+01 1.046e+02 7.937e+02 1.216e-01 1.637e-01 6.648e-02 8.485e-02
 2.404e-01 6.428e-02], Class Predicted = 1
 X472 = [1.308e+01 1.571e+01 8.563e+01 5.200e+02 1.075e-01 1.270e-01 4.568e-02
 3.110e-02 1.967e-01 6.811e-02 1.852e-01 7.477e-01 1.383e+00 1.467e+01
 4.097e-03 1.898e-02 1.698e-02 6.490e-03 1.678e-02 2.425e-03 1.450e+01
 2.049e+01 9.609e+01 6.305e+02 1.312e-01 2.776e-01 1.890e-01 7.283e-02
 3.184e-01 8.183e-02], Class Predicted = 1
 X473 = [1.613e+01 1.788e+01 1.070e+02 8.072e+02 1.040e-01 1.559e-01 1.354e-01
 7.752e-02 1.998e-01 6.515e-02 3.340e-01 6.857e-01 2.183e+00 3.503e+01
 4.185e-03 2.868e-02 2.664e-02 9.067e-03 1.703e-02 3.817e-03 2.021e+01
 2.726e+01 1.327e+02 1.261e+03 1.446e-01 5.804e-01 5.274e-01 1.864e-01
 4.270e-01 1.233e-01], Class Predicted = 0
 X474 = [1.204e+01 2.814e+01 7.685e+01 4.499e+02 8.752e-02 6.000e-02 2.367e-02
 2.377e-02 1.854e-01 5.698e-02 6.061e-01 2.643e+00 4.099e+00 4.496e+01
 7.517e-03 1.555e-02 1.465e-02 1.183e-02 2.047e-02 3.883e-03 1.360e+01
 3.333e+01 8.724e+01 5.676e+02 1.041e-01 9.726e-02 5.524e-02 5.547e-02
 2.404e-01 6.639e-02], Class Predicted = 1
 X475 = [1.207e+01 1.344e+01 7.783e+01 4.452e+02 1.100e-01 9.009e-02 3.781e-02
 2.798e-02 1.657e-01 6.608e-02 2.513e-01 5.040e-01 1.714e+00 1.854e+01
 7.327e-03 1.153e-02 1.798e-02 7.986e-03 1.962e-02 2.234e-03 1.345e+01
 1.577e+01 8.692e+01 5.499e+02 1.521e-01 1.632e-01 1.622e-01 7.393e-02
 2.781e-01 8.052e-02], Class Predicted = 1
 X476 = [1.168e+01 1.617e+01 7.549e+01 4.205e+02 1.128e-01 9.263e-02 4.279e-02
 3.132e-02 1.853e-01 6.401e-02 3.713e-01 1.154e+00 2.554e+00 2.757e+01
 8.998e-03 1.292e-02 1.851e-02 1.167e-02 2.152e-02 3.213e-03 1.332e+01
 2.159e+01 8.657e+01 5.498e+02 1.526e-01 1.477e-01 1.490e-01 9.815e-02
 2.804e-01 8.024e-02], Class Predicted = 1
 X477 = [9.683e+00 1.934e+01 6.105e+01 2.857e+02 8.491e-02 5.030e-02 2.337e-02
 9.615e-03 1.580e-01 6.235e-02 2.957e-01 1.363e+00 2.054e+00 1.824e+01
 7.440e-03 1.123e-02 2.337e-02 9.615e-03 2.203e-02 4.154e-03 1.093e+01
 2.559e+01 6.910e+01 3.642e+02 1.199e-01 9.546e-02 9.350e-02 3.846e-02
 2.552e-01 7.920e-02], Class Predicted = 1
 X478 = [1.247e+01 1.860e+01 8.109e+01 4.819e+02 9.965e-02 1.058e-01 8.005e-02
 3.821e-02 1.925e-01 6.373e-02 3.961e-01 1.044e+00 2.497e+00 3.029e+01
 6.953e-03 1.911e-02 2.701e-02 1.037e-02 1.782e-02 3.586e-03 1.497e+01
 2.464e+01 9.605e+01 6.779e+02 1.426e-01 2.378e-01 2.671e-01 1.015e-01
 3.014e-01 8.750e-02], Class Predicted = 1
 X479 = [1.490e+01 2.253e+01 1.021e+02 6.850e+02 9.947e-02 2.225e-01 2.733e-01
 9.711e-02 2.041e-01 6.898e-02 2.530e-01 8.749e-01 3.466e+00 2.419e+01
 6.965e-03 6.213e-02 7.926e-02 2.234e-02 1.499e-02 5.784e-03 1.635e+01

2.757e+01 1.254e+02 8.327e+02 1.419e-01 7.090e-01 9.019e-01 2.475e-01
 2.866e-01 1.155e-01], Class Predicted = 0
 X480 = [1.735e+01 2.306e+01 1.110e+02 9.331e+02 8.662e-02 6.290e-02 2.891e-02
 2.837e-02 1.564e-01 5.307e-02 4.007e-01 1.317e+00 2.577e+00 4.441e+01
 5.726e-03 1.106e-02 1.246e-02 7.671e-03 1.411e-02 1.578e-03 1.985e+01
 3.147e+01 1.282e+02 1.218e+03 1.240e-01 1.486e-01 1.211e-01 8.235e-02
 2.452e-01 6.515e-02], Class Predicted = 0
 X481 = [1.940e+01 2.350e+01 1.291e+02 1.155e+03 1.027e-01 1.558e-01 2.049e-01
 8.886e-02 1.978e-01 6.000e-02 5.243e-01 1.802e+00 4.037e+00 6.041e+01
 1.061e-02 3.252e-02 3.915e-02 1.559e-02 2.186e-02 3.949e-03 2.165e+01
 3.053e+01 1.449e+02 1.417e+03 1.463e-01 2.968e-01 3.458e-01 1.564e-01
 2.920e-01 7.614e-02], Class Predicted = 0
 X482 = [1.387e+01 2.070e+01 8.977e+01 5.848e+02 9.578e-02 1.018e-01 3.688e-02
 2.369e-02 1.620e-01 6.688e-02 2.720e-01 1.047e+00 2.076e+00 2.312e+01
 6.298e-03 2.172e-02 2.615e-02 9.061e-03 1.490e-02 3.599e-03 1.505e+01
 2.475e+01 9.917e+01 6.886e+02 1.264e-01 2.037e-01 1.377e-01 6.845e-02
 2.249e-01 8.492e-02], Class Predicted = 1
 X483 = [1.650e+01 1.829e+01 1.066e+02 8.381e+02 9.686e-02 8.468e-02 5.862e-02
 4.835e-02 1.495e-01 5.593e-02 3.389e-01 1.439e+00 2.344e+00 3.358e+01
 7.257e-03 1.805e-02 1.832e-02 1.033e-02 1.694e-02 2.001e-03 1.813e+01
 2.545e+01 1.172e+02 1.009e+03 1.338e-01 1.679e-01 1.663e-01 9.123e-02
 2.394e-01 6.469e-02], Class Predicted = 1
 X484 = [1.147e+01 1.603e+01 7.302e+01 4.027e+02 9.076e-02 5.886e-02 2.587e-02
 2.322e-02 1.634e-01 6.372e-02 1.707e-01 7.615e-01 1.090e+00 1.225e+01
 9.191e-03 8.548e-03 9.400e-03 6.315e-03 1.755e-02 3.009e-03 1.251e+01
 2.079e+01 7.967e+01 4.758e+02 1.531e-01 1.120e-01 9.823e-02 6.548e-02
 2.851e-01 8.763e-02], Class Predicted = 1
 X485 = [1.980e+01 2.156e+01 1.297e+02 1.230e+03 9.383e-02 1.306e-01 1.272e-01
 8.691e-02 2.094e-01 5.581e-02 9.553e-01 1.186e+00 6.487e+00 1.244e+02
 6.804e-03 3.169e-02 3.446e-02 1.712e-02 1.897e-02 4.045e-03 2.573e+01
 2.864e+01 1.703e+02 2.009e+03 1.353e-01 3.235e-01 3.617e-01 1.820e-01
 3.070e-01 8.255e-02], Class Predicted = 0
 X486 = [1.497e+01 1.976e+01 9.550e+01 6.902e+02 8.421e-02 5.352e-02 1.947e-02
 1.939e-02 1.515e-01 5.266e-02 1.840e-01 1.065e+00 1.286e+00 1.664e+01
 3.634e-03 7.983e-03 8.268e-03 6.432e-03 1.924e-02 1.520e-03 1.598e+01
 2.582e+01 1.023e+02 7.821e+02 1.045e-01 9.995e-02 7.750e-02 5.754e-02
 2.646e-01 6.085e-02], Class Predicted = 1
 X487 = [1.160e+01 1.836e+01 7.388e+01 4.127e+02 8.508e-02 5.855e-02 3.367e-02
 1.777e-02 1.516e-01 5.859e-02 1.816e-01 7.656e-01 1.303e+00 1.289e+01
 6.709e-03 1.701e-02 2.080e-02 7.497e-03 2.124e-02 2.768e-03 1.277e+01
 2.402e+01 8.268e+01 4.951e+02 1.342e-01 1.808e-01 1.860e-01 8.288e-02
 3.210e-01 7.863e-02], Class Predicted = 1
 X488 = [1.900e+01 1.891e+01 1.234e+02 1.138e+03 8.217e-02 8.028e-02 9.271e-02
 5.627e-02 1.946e-01 5.044e-02 6.896e-01 1.342e+00 5.216e+00 8.123e+01
 4.428e-03 2.731e-02 4.040e-02 1.361e-02 2.030e-02 2.686e-03 2.232e+01
 2.573e+01 1.482e+02 1.538e+03 1.021e-01 2.264e-01 3.207e-01 1.218e-01
 2.841e-01 6.541e-02], Class Predicted = 0
 X489 = [1.049e+01 1.929e+01 6.741e+01 3.361e+02 9.989e-02 8.578e-02 2.995e-02
 1.201e-02 2.217e-01 6.481e-02 3.550e-01 1.534e+00 2.302e+00 2.313e+01
 7.595e-03 2.219e-02 2.880e-02 8.614e-03 2.710e-02 3.451e-03 1.154e+01
 2.331e+01 7.422e+01 4.028e+02 1.219e-01 1.486e-01 7.987e-02 3.203e-02
 2.826e-01 7.552e-02], Class Predicted = 1
 X490 = [9.876e+00 1.727e+01 6.292e+01 2.954e+02 1.089e-01 7.232e-02 1.756e-02
 1.952e-02 1.934e-01 6.285e-02 2.137e-01 1.342e+00 1.517e+00 1.233e+01
 9.719e-03 1.249e-02 7.975e-03 7.527e-03 2.210e-02 2.472e-03 1.042e+01
 2.322e+01 6.708e+01 3.316e+02 1.415e-01 1.247e-01 6.213e-02 5.588e-02
 2.989e-01 7.380e-02], Class Predicted = 1
 X491 = [1.288e+01 1.822e+01 8.445e+01 4.931e+02 1.218e-01 1.661e-01 4.825e-02
 5.303e-02 1.709e-01 7.253e-02 4.426e-01 1.169e+00 3.176e+00 3.437e+01
 5.273e-03 2.329e-02 1.405e-02 1.244e-02 1.816e-02 3.299e-03 1.505e+01
 2.437e+01 9.931e+01 6.747e+02 1.456e-01 2.961e-01 1.246e-01 1.096e-01
 2.582e-01 8.893e-02], Class Predicted = 1
 X492 = [1.537e+01 2.276e+01 1.002e+02 7.282e+02 9.200e-02 1.036e-01 1.122e-01
 7.483e-02 1.717e-01 6.097e-02 3.129e-01 8.413e-01 2.075e+00 2.944e+01
 9.882e-03 2.444e-02 4.531e-02 1.763e-02 2.471e-02 2.142e-03 1.643e+01
 2.584e+01 1.075e+02 8.309e+02 1.257e-01 1.997e-01 2.846e-01 1.476e-01
 2.556e-01 6.828e-02], Class Predicted = 1
 X493 = [1.234e+01 1.495e+01 7.829e+01 4.691e+02 8.682e-02 4.571e-02 2.109e-02
 2.054e-02 1.571e-01 5.708e-02 3.833e-01 9.078e-01 2.602e+00 3.015e+01

7.702e-03 8.491e-03 1.307e-02 1.030e-02 2.970e-02 1.432e-03 1.318e+01
 1.685e+01 8.411e+01 5.331e+02 1.048e-01 6.744e-02 4.921e-02 4.793e-02
 2.298e-01 5.974e-02], Class Predicted = 1
 X494 = [2.327e+01 2.204e+01 1.521e+02 1.686e+03 8.439e-02 1.145e-01 1.324e-01
 9.702e-02 1.801e-01 5.553e-02 6.642e-01 8.561e-01 4.603e+00 9.785e+01
 4.910e-03 2.544e-02 2.822e-02 1.623e-02 1.956e-02 3.740e-03 2.801e+01
 2.822e+01 1.842e+02 2.403e+03 1.228e-01 3.583e-01 3.948e-01 2.346e-01
 3.589e-01 9.187e-02], Class Predicted = 0
 X495 = [1.164e+01 1.833e+01 7.517e+01 4.125e+02 1.142e-01 1.017e-01 7.070e-02
 3.485e-02 1.801e-01 6.520e-02 3.060e-01 1.657e+00 2.155e+00 2.062e+01
 8.540e-03 2.310e-02 2.945e-02 1.398e-02 1.565e-02 3.840e-03 1.314e+01
 2.926e+01 8.551e+01 5.217e+02 1.688e-01 2.660e-01 2.873e-01 1.218e-01
 2.806e-01 9.097e-02], Class Predicted = 1
 X496 = [1.230e+01 1.902e+01 7.788e+01 4.644e+02 8.313e-02 4.202e-02 7.756e-03
 8.535e-03 1.539e-01 5.945e-02 1.840e-01 1.532e+00 1.199e+00 1.324e+01
 7.881e-03 8.432e-03 7.004e-03 6.522e-03 1.939e-02 2.222e-03 1.335e+01
 2.846e+01 8.453e+01 5.443e+02 1.222e-01 9.052e-02 3.619e-02 3.983e-02
 2.554e-01 7.207e-02], Class Predicted = 1
 X497 = [1.918e+01 2.249e+01 1.275e+02 1.148e+03 8.523e-02 1.428e-01 1.114e-01
 6.772e-02 1.767e-01 5.529e-02 4.357e-01 1.073e+00 3.833e+00 5.422e+01
 5.524e-03 3.698e-02 2.706e-02 1.221e-02 1.415e-02 3.397e-03 2.336e+01
 3.206e+01 1.664e+02 1.688e+03 1.322e-01 5.601e-01 3.865e-01 1.708e-01
 3.193e-01 9.221e-02], Class Predicted = 0
 X498 = [1.678e+01 1.880e+01 1.093e+02 8.863e+02 8.865e-02 9.182e-02 8.422e-02
 6.576e-02 1.893e-01 5.534e-02 5.990e-01 1.391e+00 4.129e+00 6.734e+01
 6.123e-03 2.470e-02 2.626e-02 1.604e-02 2.091e-02 3.493e-03 2.005e+01
 2.630e+01 1.307e+02 1.260e+03 1.168e-01 2.119e-01 2.318e-01 1.474e-01
 2.810e-01 7.228e-02], Class Predicted = 0
 X499 = [1.630e+01 1.570e+01 1.047e+02 8.198e+02 9.427e-02 6.712e-02 5.526e-02
 4.563e-02 1.711e-01 5.657e-02 2.067e-01 4.706e-01 1.146e+00 2.067e+01
 7.394e-03 1.203e-02 2.470e-02 1.431e-02 1.344e-02 2.569e-03 1.732e+01
 1.776e+01 1.098e+02 9.282e+02 1.354e-01 1.361e-01 1.947e-01 1.357e-01
 2.300e-01 7.230e-02], Class Predicted = 1
 X500 = [1.701e+01 2.026e+01 1.097e+02 9.043e+02 8.772e-02 7.304e-02 6.950e-02
 5.390e-02 2.026e-01 5.223e-02 5.858e-01 8.554e-01 4.106e+00 6.846e+01
 5.038e-03 1.503e-02 1.946e-02 1.123e-02 2.294e-02 2.581e-03 1.980e+01
 2.505e+01 1.300e+02 1.210e+03 1.111e-01 1.486e-01 1.932e-01 1.096e-01
 3.275e-01 6.469e-02], Class Predicted = 0
 X501 = [1.026e+01 1.658e+01 6.585e+01 3.208e+02 8.877e-02 8.066e-02 4.358e-02
 2.438e-02 1.669e-01 6.714e-02 1.144e-01 1.023e+00 9.887e-01 7.326e+00
 1.027e-02 3.084e-02 2.613e-02 1.097e-02 2.277e-02 5.890e-03 1.083e+01
 2.204e+01 7.108e+01 3.574e+02 1.461e-01 2.246e-01 1.783e-01 8.333e-02
 2.691e-01 9.479e-02], Class Predicted = 1
 X502 = [7.729e+00 2.549e+01 4.798e+01 1.788e+02 8.098e-02 4.878e-02 0.000e+00
 0.000e+00 1.870e-01 7.285e-02 3.777e-01 1.462e+00 2.492e+00 1.914e+01
 1.266e-02 9.692e-03 0.000e+00 0.000e+00 2.882e-02 6.872e-03 9.077e+00
 3.092e+01 5.717e+01 2.480e+02 1.256e-01 8.340e-02 0.000e+00 0.000e+00
 3.058e-01 9.938e-02], Class Predicted = 1
 X503 = [1.281e+01 1.306e+01 8.129e+01 5.088e+02 8.739e-02 3.774e-02 9.193e-03
 1.330e-02 1.466e-01 6.133e-02 2.889e-01 9.899e-01 1.778e+00 2.179e+01
 8.534e-03 6.364e-03 6.180e-03 7.408e-03 1.065e-02 3.351e-03 1.363e+01
 1.615e+01 8.670e+01 5.707e+02 1.162e-01 5.445e-02 2.758e-02 3.990e-02
 1.783e-01 7.319e-02], Class Predicted = 1
 X504 = [1.953e+01 3.247e+01 1.280e+02 1.223e+03 8.420e-02 1.130e-01 1.145e-01
 6.637e-02 1.428e-01 5.313e-02 7.392e-01 1.321e+00 4.722e+00 1.099e+02
 5.539e-03 2.644e-02 2.664e-02 1.078e-02 1.332e-02 2.256e-03 2.790e+01
 4.541e+01 1.802e+02 2.477e+03 1.408e-01 4.097e-01 3.995e-01 1.625e-01
 2.713e-01 7.568e-02], Class Predicted = 0
 X505 = [9.731e+00 1.534e+01 6.378e+01 3.002e+02 1.072e-01 1.599e-01 4.108e-01
 7.857e-02 2.548e-01 9.296e-02 8.245e-01 2.664e+00 4.073e+00 4.985e+01
 1.097e-02 9.586e-02 3.960e-01 5.279e-02 3.546e-02 2.984e-02 1.102e+01
 1.949e+01 7.104e+01 3.805e+02 1.292e-01 2.772e-01 8.216e-01 1.571e-01
 3.108e-01 1.259e-01], Class Predicted = 0
 X506 = [1.305e+01 1.384e+01 8.271e+01 5.306e+02 8.352e-02 3.735e-02 4.559e-03
 8.829e-03 1.453e-01 5.518e-02 3.975e-01 8.285e-01 2.567e+00 3.301e+01
 4.148e-03 4.711e-03 2.831e-03 4.821e-03 1.422e-02 2.273e-03 1.473e+01
 1.740e+01 9.396e+01 6.724e+02 1.016e-01 5.847e-02 1.824e-02 3.532e-02
 2.107e-01 6.580e-02], Class Predicted = 1
 X507 = [1.265e+01 1.817e+01 8.269e+01 4.856e+02 1.076e-01 1.334e-01 8.017e-02

```

5.074e-02 1.641e-01 6.854e-02 2.324e-01 6.332e-01 1.696e+00 1.840e+01
5.704e-03 2.502e-02 2.636e-02 1.032e-02 1.759e-02 3.563e-03 1.438e+01
2.215e+01 9.529e+01 6.337e+02 1.533e-01 3.842e-01 3.582e-01 1.407e-01
3.230e-01 1.033e-01], Class Predicted = 1
X508 = [2.013e+01 2.825e+01 1.312e+02 1.261e+03 9.780e-02 1.034e-01 1.440e-01
9.791e-02 1.752e-01 5.533e-02 7.655e-01 2.463e+00 5.203e+00 9.904e+01
5.769e-03 2.423e-02 3.950e-02 1.678e-02 1.898e-02 2.498e-03 2.369e+01
3.825e+01 1.550e+02 1.731e+03 1.166e-01 1.922e-01 3.215e-01 1.628e-01
2.572e-01 6.637e-02], Class Predicted = 0
X509 = [1.137e+01 1.889e+01 7.217e+01 3.960e+02 8.713e-02 5.008e-02 2.399e-02
2.173e-02 2.013e-01 5.955e-02 2.656e-01 1.974e+00 1.954e+00 1.749e+01
6.538e-03 1.395e-02 1.376e-02 9.924e-03 3.416e-02 2.928e-03 1.236e+01
2.614e+01 7.929e+01 4.593e+02 1.118e-01 9.708e-02 7.529e-02 6.203e-02
3.267e-01 6.994e-02], Class Predicted = 1
X510 = [2.722e+01 2.187e+01 1.821e+02 2.250e+03 1.094e-01 1.914e-01 2.871e-01
1.878e-01 1.800e-01 5.770e-02 8.361e-01 1.481e+00 5.820e+00 1.287e+02
4.631e-03 2.537e-02 3.109e-02 1.241e-02 1.575e-02 2.747e-03 3.312e+01
3.285e+01 2.208e+02 3.216e+03 1.472e-01 4.034e-01 5.340e-01 2.688e-01
2.856e-01 8.082e-02], Class Predicted = 0
X511 = [9.436e+00 1.832e+01 5.982e+01 2.786e+02 1.009e-01 5.956e-02 2.710e-02
1.406e-02 1.506e-01 6.959e-02 5.079e-01 1.247e+00 3.267e+00 3.048e+01
6.836e-03 8.982e-03 2.348e-02 6.565e-03 1.942e-02 2.713e-03 1.202e+01
2.502e+01 7.579e+01 4.396e+02 1.333e-01 1.049e-01 1.144e-01 5.052e-02
2.454e-01 8.136e-02], Class Predicted = 1
X512 = [1.365e+01 1.316e+01 8.788e+01 5.689e+02 9.646e-02 8.711e-02 3.888e-02
2.563e-02 1.360e-01 6.344e-02 2.102e-01 4.336e-01 1.391e+00 1.740e+01
4.133e-03 1.695e-02 1.652e-02 6.659e-03 1.371e-02 2.735e-03 1.534e+01
1.635e+01 9.971e+01 7.062e+02 1.311e-01 2.474e-01 1.759e-01 8.056e-02
2.380e-01 8.718e-02], Class Predicted = 1

```

2.4.2 Testing Predictions

```
In [ ]: #Model score in test
GNB.score(x_test, test_pred)
```

```
Out[ ]: 1.0
```

5.4.3 Metrics & Scoring

```
In [ ]: #Accuracy Score
accuracy_score(y_test, test_pred)
```

```
Out[ ]: 0.9337231968810916
```

```
In [ ]: # Find R Squared
correlation_matrix = np.corrcoef(y_test, test_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

```
0.7352489760387764
```

```
In [ ]: #ROC Score
roc_auc_score(y_test, GNB.predict(x_test), multi_class='ovr')
```

```
Out[ ]: 0.9227098305746155
```

```
In [ ]: #F1 Score
print(f1_score(y_test, test_pred, average='macro'))
```

```
print(f1_score(y_test, test_pred, average='micro'))
print(f1_score(y_test, test_pred, average='weighted'))
```

```
0.9281394199077126
0.9337231968810916
0.9332546281840248
```

In []:

```
#Precision Score
print(precision_score(y_test, test_pred, average='macro'))
print(precision_score(y_test, test_pred, average='micro'))
print(precision_score(y_test, test_pred, average='weighted'))
```

```
0.9348426052922089
0.9337231968810916
0.933896524635071
```

In []:

```
#Recall Score
print(recall_score(y_test, test_pred, average='macro'))
print(recall_score(y_test, test_pred, average='micro'))
print(recall_score(y_test, test_pred, average='weighted'))
```

```
0.9227098305746155
0.9337231968810916
0.9337231968810916
```

In []:

```
#Cohen Kappa Score
cohen_kappa_score(y_test, test_pred)
```

Out[]: 0.8563640556031359

In []:

```
mse = mean_squared_error(y_test, test_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.26
```

5.4.4 Confusion Matrix

In []:

```
cm = np.array(confusion_matrix(y_test, test_pred, labels=[1,0]))
confusion = pd.DataFrame(cm, index=['is_cancer', 'is_healthy'],
                         columns=['predicted_cancer','predicted_healthy'])
confusion
```

Out[]:

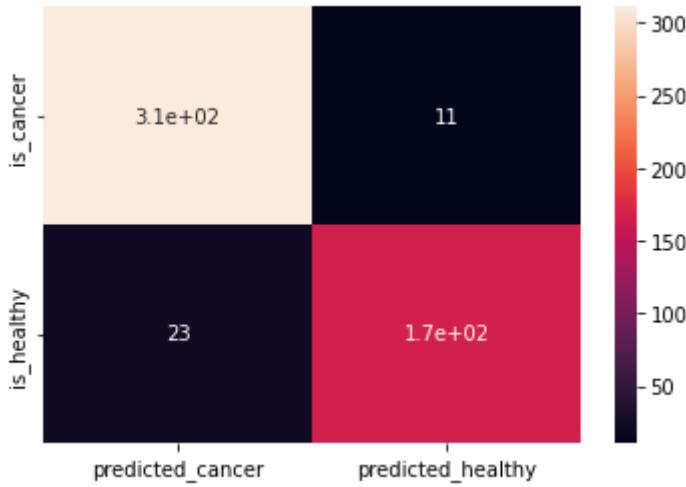
	predicted_cancer	predicted_healthy
is_cancer	311	11
is_healthy	23	168

In []:

```
sns.heatmap(confusion, annot=True)
```

Out[]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x7fc8429b4790>
```



5.4.5 Cross-Validation

```
In [ ]: x_shuffle, y2_shuffle = shuffle(x, y, random_state=7)
```

```
In [ ]: scores = cross_val_score(GNB, x_shuffle, y_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.23 0.19 0.28 0.25 0.27]
RMSE average: 0.24231639912963612

5.4.6 K-Fold

```
In [ ]:
#Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(x):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0   2   3   4   5   6   7   8   9   11  13  16  18  19  20  22  23  24
      25  26  27  28  29  30  32  33  34  35  36  38  39  40  41  42  43  44
      47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  65
      67  68  69  70  72  73  74  77  79  80  81  82  83  84  86  87  88  91
      92  93  94  95  97  98  99  100 101 104 105 106 109 110 111 112 114 115
     116 117 119 120 121 122 123 124 125 126 128 129 130 131 133 135 136 137
     138 139 141 143 144 145 146 147 148 149 150 151 152 153 154 155 156 158
     160 161 163 164 166 167 168 169 171 173 174 176 177 178 180 181 182 183
     184 186 187 189 191 192 193 195 197 198 199 200 201 202 203 204 206 207
     209 212 214 215 216 217 218 219 220 221 222 223 226 227 228 229 230 232
     234 237 238 240 241 243 244 245 246 248 251 252 253 254 255 256 257 258
     259 260 261 262 265 266 267 269 270 273 274 275 276 277 278 279 280 282
     284 285 286 287 288 289 290 291 292 293 294 295 296 297 299 300 302 303
     304 305 307 309 311 312 314 315 316 317 320 321 322 323 324 326 327 328
     329 331 332 333 334 335 336 339 341 342 343 344 346 347 349 351 352 355
     357 359 360 361 362 363 365 367 368 369 370 371 373 374 375 376 377 378
     379 381 383 386 387 388 390 392 393 394 395 396 397 398 399 402 403 404
     405 407 408 409 410 411 415 418 419 421 422 423 424 425 426 428 429 430 431
     433 435 436 437 438 440 441 442 443 444 445 446 447 448 449 450 451 452
     453 454 455 456 459 460 461 462 464 467 470 472 474 475 476 477 478 479
     480 481 483 484 485 486 487 488 489 491 493 494 495 496 497 498 499 501
     502 503 505 506 507 508 509 510 511 513 517 520 521 522 523 524 526 528
     529 530 531 532 533 534 535 536 537 539 540 541 543 544 545 546 548 549 551
```

552 553 554 555 556 557 558 559 561 563 565 568]
Test: [1 10 12 14 15 17 21 31 37 45 46 64 66 71 75 76 78 85
89 90 96 102 103 107 108 113 118 127 132 134 140 142 157 159 162 165
170 172 175 179 185 188 190 194 196 205 208 210 211 213 224 225 231 233
235 236 239 242 247 249 250 263 264 268 271 272 281 283 298 301 306 308
310 313 318 319 325 330 337 338 340 345 348 350 353 354 356 358 364 366
372 380 382 384 385 389 391 400 401 406 412 413 414 416 417 420 421 427
432 434 439 457 458 463 465 466 468 469 471 473 482 490 492 500 504 512
514 515 516 518 519 525 527 538 542 546 547 550 560 562 564 566 567]

Train: [0 1 2 3 9 10 11 12 13 14 15 16 17 19 21 23 24 25
27 28 29 31 32 33 35 36 37 39 40 41 42 43 44 45 46 47
48 50 53 57 58 61 62 64 66 67 69 70 71 72 73 75 76 77
78 79 80 82 83 84 85 86 87 88 89 90 91 94 95 96 98 99
102 103 104 107 108 109 110 111 113 114 115 117 118 119 121 123 125 127
128 129 130 131 132 133 134 136 138 139 140 142 143 145 146 147 148 149
150 151 152 156 157 159 161 162 163 165 166 168 169 170 172 174 175 176
177 178 179 180 182 183 184 185 187 188 189 190 192 193 194 196 197 198
199 201 203 204 205 207 208 209 210 211 212 213 214 215 216 217 218 221
222 223 224 225 226 227 228 231 232 233 234 235 236 237 239 241 242 244
247 248 249 250 251 253 254 255 256 257 258 259 260 263 264 265 266 267
268 269 270 271 272 273 274 275 277 279 280 281 283 286 287 288 289 290
291 292 294 295 296 297 298 300 301 302 304 305 306 307 308 309 310 311
313 314 317 318 319 321 323 324 325 326 327 328 330 331 335 337 338 340
341 342 345 348 349 350 351 352 353 354 356 358 359 360 362 363 364 365
366 368 369 370 371 372 373 374 375 376 377 380 381 382 383 384 385 386
387 388 389 391 393 394 395 396 397 398 399 400 401 402 404 405 406 407
410 411 412 413 414 416 417 418 419 420 421 422 423 424 426 427 430 431
432 433 434 435 438 439 442 443 444 445 446 447 448 449 450 451 452 455
456 457 458 459 460 461 462 463 465 466 467 468 469 470 471 472 473 475
476 480 482 483 485 486 488 490 491 492 493 494 495 496 497 498 500 501
504 506 507 509 510 511 512 513 514 515 516 518 519 520 521 522 524 525
527 528 529 530 532 533 535 536 537 538 539 540 541 542 543 544 545 546
547 550 551 552 556 558 559 560 562 564 566 567 568]

Test: [4 5 6 7 8 18 20 22 26 30 34 38 49 51 52 54 55 56
59 60 63 65 68 74 81 92 93 97 100 101 105 106 112 116 120 122
124 126 135 137 141 144 153 154 155 158 160 164 167 171 173 181 186 191
195 200 202 206 219 220 229 230 238 240 243 245 246 252 261 262 276 278
282 284 285 293 299 303 312 315 316 320 322 329 332 333 334 336 339 343
344 346 347 355 357 361 367 378 379 390 392 403 408 409 415 425 428 429
436 437 440 441 453 454 464 474 477 478 479 481 484 487 489 499 502 503
505 508 517 523 526 531 534 548 549 553 554 555 557 561 563 565]

Train: [0 1 3 4 5 6 7 8 9 10 11 12 14 15 17 18 20 21
22 23 26 28 30 31 32 34 36 37 38 41 42 43 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 62 63 64 65 66 68
69 70 71 72 74 75 76 77 78 80 81 82 84 85 86 87 89 90
91 92 93 94 95 96 97 98 99 100 101 102 103 105 106 107 108 112
113 115 116 118 119 120 122 123 124 125 126 127 128 130 131 132 134 135
137 140 141 142 143 144 147 148 151 153 154 155 157 158 159 160 162 163
164 165 167 169 170 171 172 173 174 175 177 178 179 180 181 182 183 184
185 186 187 188 190 191 192 193 194 195 196 197 200 201 202 203 205 206
207 208 209 210 211 213 219 220 222 224 225 226 227 229 230 231 233 235
236 238 239 240 242 243 244 245 246 247 249 250 252 256 257 258 261 262
263 264 265 266 268 270 271 272 273 275 276 277 278 279 280 281 282 283
284 285 286 288 291 292 293 294 298 299 301 303 304 305 306 307 308 310
312 313 314 315 316 318 319 320 321 322 324 325 329 330 332 333 334 335
336 337 338 339 340 341 343 344 345 346 347 348 349 350 353 354 355 356
357 358 359 360 361 364 366 367 368 369 370 371 372 373 377 378 379 380
382 383 384 385 387 388 389 390 391 392 394 396 397 398 400 401 403 405
406 408 409 411 412 413 414 415 416 417 418 419 420 421 423 425 427 428
429 430 431 432 434 436 437 439 440 441 442 446 448 451 453 454 457 458
459 461 463 464 465 466 468 469 471 472 473 474 476 477 478 479 480 481
482 484 485 486 487 488 489 490 492 495 499 500 502 503 504 505 508 509
510 511 512 514 515 516 517 518 519 521 522 523 525 526 527 528 529 531
534 535 536 537 538 540 542 543 544 546 547 548 549 550 551 553 554 555
556 557 558 559 560 561 562 563 564 565 566 567 568]

Test: [2 13 16 19 24 25 27 29 33 35 39 40 44 61 67 73 79 83
88 104 109 110 111 114 117 121 129 133 136 138 139 145 146 149 150 152

```

156 161 166 168 176 189 198 199 204 212 214 215 216 217 218 221 223 228
232 234 237 241 248 251 253 254 255 259 260 267 269 274 287 289 290 295
296 297 300 302 309 311 317 323 326 327 328 331 342 351 352 362 363 365
374 375 376 381 386 393 395 399 402 404 407 410 422 424 426 433 435 438
443 444 445 447 449 450 452 455 456 460 462 467 470 475 483 491 493 494
496 497 498 501 506 507 513 520 524 530 532 533 539 541 545 552]

Train: [ 1  2   4   5   6   7   8   10  12  13  14  15  16  17  18  19  20  21
       22  24  25  26  27  29  30  31  33  34  35  37  38  39  40  44  45  46
       49  51  52  54  55  56  59  60  61  63  64  65  66  67  68  71  73  74
       75  76  78  79  81  83  85  88  89  90  92  93  96  97  100 101 102 103
      104 105 106 107 108 109 110 111 112 113 114 116 117 118 120 121 122 124
      126 127 129 132 133 134 135 136 137 138 139 140 141 142 144 145 146 149
      150 152 153 154 155 156 157 158 159 160 161 162 164 165 166 167 168 170
      171 172 173 175 176 179 181 185 186 188 189 190 191 194 195 196 198 199
      200 202 204 205 206 208 210 211 212 213 214 215 216 217 218 219 220 221
      223 224 225 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242
      243 245 246 247 248 249 250 251 252 253 254 255 259 260 261 262 263 264
      267 268 269 271 272 274 276 278 281 282 283 284 285 287 289 290 293 295
      296 297 298 299 300 301 302 303 306 308 309 310 311 312 313 315 316 317
      318 319 320 322 323 325 326 327 328 329 330 331 332 333 334 336 337 338
      339 340 342 343 344 345 346 347 348 350 351 352 353 354 355 356 357 358
      361 362 363 364 365 366 367 372 374 375 376 378 379 380 381 382 384 385
      386 389 390 391 392 393 395 399 400 401 402 403 404 406 407 408 409 410
      412 413 414 415 416 417 420 421 422 424 425 426 427 428 429 432 433 434
      435 436 437 438 439 440 441 443 444 445 447 449 450 452 453 454 455 456
      457 458 460 462 463 464 465 466 467 468 469 470 471 473 474 475 477 478
      479 481 482 483 484 487 489 490 491 492 493 494 496 497 498 499 500 501
      502 503 504 505 506 507 508 512 513 514 515 516 517 518 519 520 523 524
      525 526 527 530 531 532 533 534 538 539 541 542 545 546 547 548 549 550
      552 553 554 555 557 560 561 562 563 564 565 566 567]
Test: [ 0   3   9   11  23  28  32  36  41  42  43  47  48  50  53  57  58  62
       69  70  72  77  80  82  84  86  87  91  94  95  98  99  115 119 123 125
      128 130 131 143 147 148 151 163 169 174 177 178 180 182 183 184 187 192
      193 197 201 203 207 209 222 226 227 244 256 257 258 265 266 270 273 275
      277 279 280 286 288 291 292 294 304 305 307 314 321 324 335 341 349 359
      360 368 369 370 371 373 377 383 387 388 394 396 397 398 405 411 418 419
      423 430 431 442 446 448 451 459 461 472 476 480 485 486 488 495 509 510
      511 521 522 528 529 535 536 537 540 543 544 551 556 558 559 568]

```

In []:

```
#Output the accuracy
results = cross_val_score(GNB, x, y, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.93706294 0.95070423 0.92253521 0.95070423]

In []:

```
#Printing the mean and std across all folds
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 94.025% (1.165%)

5.5 Random Forests

In []:

```
#Random Forest
RFC = RandomForestClassifier(random_state=1, n_estimators=100)

#Fitting the Random Forest Model to Data
RFC.fit(x_train, y_train)
```

Out[]: RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
 criterion='gini', max_depth=None, max_features='auto',
 max_leaf_nodes=None, max_samples=None,
 min_impurity_decrease=0.0, min_impurity_split=None,

```
min_samples_leaf=1, min_samples_split=2,
min_weight_fraction_leaf=0.0, n_estimators=100,
n_jobs=None, oob_score=False, random_state=1, verbose=0,
warm_start=False)
```

```
In [ ]: #Model score in training
RFC.score(x_train, y_train)
```

```
Out[ ]: 1.0
```

5.5.1 Making Predictions

```
In [ ]: #Making predictions (assign class labels)
test_pred = RFC.predict(x_test)

#Showing the inputs and predicted outputs
for i in range(len(x_test)):
    #print("X=%s, Class Predicted = %s" % (X_test[i], y_pred[i]))
    print("X{0} = {1}, Class Predicted = {2}".format(i, x_test[i], test_pred[i]))
```

```
X0 = [1.152e+01 1.875e+01 7.334e+01 4.090e+02 9.524e-02 5.473e-02 3.036e-02
2.278e-02 1.920e-01 5.907e-02 3.249e-01 9.591e-01 2.183e+00 2.347e+01
8.328e-03 8.722e-03 1.349e-02 8.670e-03 3.218e-02 2.386e-03 1.284e+01
2.247e+01 8.181e+01 5.062e+02 1.249e-01 8.720e-02 9.076e-02 6.316e-02
3.306e-01 7.036e-02], Class Predicted = 1
X1 = [1.602e+01 2.324e+01 1.027e+02 7.978e+02 8.206e-02 6.669e-02 3.299e-02
3.323e-02 1.528e-01 5.697e-02 3.795e-01 1.187e+00 2.466e+00 4.051e+01
4.029e-03 9.269e-03 1.101e-02 7.591e-03 1.460e-02 3.042e-03 1.919e+01
3.388e+01 1.238e+02 1.150e+03 1.181e-01 1.551e-01 1.459e-01 9.975e-02
2.948e-01 8.452e-02], Class Predicted = 0
X2 = [1.730e+01 1.708e+01 1.130e+02 9.282e+02 1.008e-01 1.041e-01 1.266e-01
8.353e-02 1.813e-01 5.613e-02 3.093e-01 8.568e-01 2.193e+00 3.363e+01
4.757e-03 1.503e-02 2.332e-02 1.262e-02 1.394e-02 2.362e-03 1.985e+01
2.509e+01 1.309e+02 1.222e+03 1.416e-01 2.405e-01 3.378e-01 1.857e-01
3.138e-01 8.113e-02], Class Predicted = 0
X3 = [1.486e+01 1.694e+01 9.489e+01 6.737e+02 8.924e-02 7.074e-02 3.346e-02
2.877e-02 1.573e-01 5.703e-02 3.028e-01 6.683e-01 1.612e+00 2.392e+01
5.756e-03 1.665e-02 1.461e-02 8.281e-03 1.551e-02 2.168e-03 1.631e+01
2.054e+01 1.023e+02 7.775e+02 1.218e-01 1.550e-01 1.220e-01 7.971e-02
2.525e-01 6.827e-02], Class Predicted = 1
X4 = [7.760e+00 2.454e+01 4.792e+01 1.810e+02 5.263e-02 4.362e-02 0.000e+00
0.000e+00 1.587e-01 5.884e-02 3.857e-01 1.428e+00 2.548e+00 1.915e+01
7.189e-03 4.660e-03 0.000e+00 0.000e+00 2.676e-02 2.783e-03 9.456e+00
3.037e+01 5.916e+01 2.686e+02 8.996e-02 6.444e-02 0.000e+00 0.000e+00
2.871e-01 7.039e-02], Class Predicted = 1
X5 = [1.356e+01 1.390e+01 8.859e+01 5.613e+02 1.051e-01 1.192e-01 7.860e-02
4.451e-02 1.962e-01 6.303e-02 2.569e-01 4.981e-01 2.011e+00 2.103e+01
5.851e-03 2.314e-02 2.544e-02 8.360e-03 1.842e-02 2.918e-03 1.498e+01
1.713e+01 1.011e+02 6.866e+02 1.376e-01 2.698e-01 2.577e-01 9.090e-02
3.065e-01 8.177e-02], Class Predicted = 1
X6 = [2.009e+01 2.386e+01 1.347e+02 1.247e+03 1.080e-01 1.838e-01 2.283e-01
1.280e-01 2.249e-01 7.469e-02 1.072e+00 1.743e+00 7.804e+00 1.308e+02
7.964e-03 4.732e-02 7.649e-02 1.936e-02 2.736e-02 5.928e-03 2.368e+01
2.943e+01 1.588e+02 1.696e+03 1.347e-01 3.391e-01 4.932e-01 1.923e-01
3.294e-01 9.469e-02], Class Predicted = 0
X7 = [2.425e+01 2.020e+01 1.662e+02 1.761e+03 1.447e-01 2.867e-01 4.268e-01
2.012e-01 2.655e-01 6.877e-02 1.509e+00 3.120e+00 9.807e+00 2.330e+02
2.333e-02 9.806e-02 1.278e-01 1.822e-02 4.547e-02 9.875e-03 2.602e+01
2.399e+01 1.809e+02 2.073e+03 1.696e-01 4.244e-01 5.803e-01 2.248e-01
3.222e-01 8.009e-02], Class Predicted = 0
X8 = [1.287e+01 1.954e+01 8.267e+01 5.092e+02 9.136e-02 7.883e-02 1.797e-02
2.090e-02 1.861e-01 6.347e-02 3.665e-01 7.693e-01 2.597e+00 2.650e+01
5.910e-03 1.362e-02 7.066e-03 6.502e-03 2.223e-02 2.378e-03 1.445e+01
2.438e+01 9.514e+01 6.269e+02 1.214e-01 1.652e-01 7.127e-02 6.384e-02
3.313e-01 7.735e-02], Class Predicted = 1
```

```

X9 = [1.505e+01 1.907e+01 9.726e+01 7.019e+02 9.215e-02 8.597e-02 7.486e-02
4.335e-02 1.561e-01 5.915e-02 3.860e-01 1.198e+00 2.630e+00 3.849e+01
4.952e-03 1.630e-02 2.967e-02 9.423e-03 1.152e-02 1.718e-03 1.758e+01
2.806e+01 1.138e+02 9.670e+02 1.246e-01 2.101e-01 2.866e-01 1.120e-01
2.282e-01 6.954e-02], Class Predicted = 0
X10 = [1.131e+01 1.904e+01 7.180e+01 3.941e+02 8.139e-02 4.701e-02 3.709e-02
2.230e-02 1.516e-01 5.667e-02 2.727e-01 9.429e-01 1.831e+00 1.815e+01
9.282e-03 9.216e-03 2.063e-02 8.965e-03 2.183e-02 2.146e-03 1.233e+01
2.384e+01 7.800e+01 4.667e+02 1.290e-01 9.148e-02 1.444e-01 6.961e-02
2.400e-01 6.641e-02], Class Predicted = 1
X11 = [1.133e+01 1.416e+01 7.179e+01 3.966e+02 9.379e-02 3.872e-02 1.487e-03
3.333e-03 1.954e-01 5.821e-02 2.375e-01 1.280e+00 1.565e+00 1.709e+01
8.426e-03 8.998e-03 1.487e-03 3.333e-03 2.358e-02 1.627e-03 1.220e+01
1.899e+01 7.737e+01 4.580e+02 1.259e-01 7.348e-02 4.955e-03 1.111e-02
2.758e-01 6.386e-02], Class Predicted = 1
X12 = [1.959e+01 1.815e+01 1.307e+02 1.214e+03 1.120e-01 1.666e-01 2.508e-01
1.286e-01 2.027e-01 6.082e-02 7.364e-01 1.048e+00 4.792e+00 9.707e+01
4.057e-03 2.277e-02 4.029e-02 1.303e-02 1.686e-02 3.318e-03 2.673e+01
2.639e+01 1.749e+02 2.232e+03 1.438e-01 3.846e-01 6.810e-01 2.247e-01
3.643e-01 9.223e-02], Class Predicted = 0
X13 = [1.795e+01 2.001e+01 1.142e+02 9.820e+02 8.402e-02 6.722e-02 7.293e-02
5.596e-02 2.129e-01 5.025e-02 5.506e-01 1.214e+00 3.357e+00 5.404e+01
4.024e-03 8.422e-03 2.291e-02 9.863e-03 5.014e-02 1.902e-03 2.058e+01
2.783e+01 1.292e+02 1.261e+03 1.072e-01 1.202e-01 2.249e-01 1.185e-01
4.882e-01 6.111e-02], Class Predicted = 0
X14 = [1.278e+01 1.649e+01 8.137e+01 5.025e+02 9.831e-02 5.234e-02 3.653e-02
2.864e-02 1.590e-01 5.653e-02 2.368e-01 8.732e-01 1.471e+00 1.833e+01
7.962e-03 5.612e-03 1.585e-02 8.662e-03 2.254e-02 1.906e-03 1.346e+01
1.976e+01 8.567e+01 5.549e+02 1.296e-01 7.061e-02 1.039e-01 5.882e-02
2.383e-01 6.410e-02], Class Predicted = 1
X15 = [9.295e+00 1.390e+01 5.996e+01 2.578e+02 1.371e-01 1.225e-01 3.332e-02
2.421e-02 2.197e-01 7.696e-02 3.538e-01 1.130e+00 2.388e+00 1.963e+01
1.546e-02 2.540e-02 2.197e-02 1.580e-02 3.997e-02 3.901e-03 1.057e+01
1.784e+01 6.784e+01 3.266e+02 1.850e-01 2.097e-01 9.996e-02 7.262e-02
3.681e-01 8.982e-02], Class Predicted = 1
X16 = [1.315e+01 1.534e+01 8.531e+01 5.389e+02 9.384e-02 8.498e-02 9.293e-02
3.483e-02 1.822e-01 6.207e-02 2.710e-01 7.927e-01 1.819e+00 2.279e+01
8.584e-03 2.017e-02 3.047e-02 9.536e-03 2.769e-02 3.479e-03 1.477e+01
2.050e+01 9.767e+01 6.773e+02 1.478e-01 2.256e-01 3.009e-01 9.722e-02
3.849e-01 8.633e-02], Class Predicted = 1
X17 = [2.137e+01 1.510e+01 1.413e+02 1.386e+02 1.001e-01 1.515e-01 1.932e-01
1.255e-01 1.973e-01 6.183e-02 3.414e-01 1.309e+00 2.407e+00 3.906e+01
4.426e-03 2.675e-02 3.437e-02 1.343e-02 1.675e-02 4.367e-03 2.269e+01
2.184e+01 1.521e+02 1.535e+03 1.192e-01 2.840e-01 4.024e-01 1.966e-01
2.730e-01 8.666e-02], Class Predicted = 0
X18 = [1.189e+01 1.736e+01 7.620e+01 4.356e+02 1.225e-01 7.210e-02 5.929e-02
7.404e-02 2.015e-01 5.875e-02 6.412e-01 2.293e+00 4.021e+00 4.884e+01
1.418e-02 1.489e-02 1.267e-02 1.910e-02 2.678e-02 3.002e-03 1.240e+01
1.899e+01 7.946e+01 4.724e+02 1.359e-01 8.368e-02 7.153e-02 8.946e-02
2.220e-01 6.033e-02], Class Predicted = 1
X19 = [1.919e+01 1.594e+01 1.263e+02 1.157e+03 8.694e-02 1.185e-01 1.193e-01
9.667e-02 1.741e-01 5.176e-02 1.000e+00 6.336e-01 6.971e+00 1.193e+02
9.406e-03 3.055e-02 4.344e-02 2.794e-02 3.156e-02 3.362e-03 2.203e+01
1.781e+01 1.466e+02 1.495e+03 1.124e-01 2.016e-01 2.264e-01 1.777e-01
2.443e-01 6.251e-02], Class Predicted = 0
X20 = [1.955e+01 2.877e+01 1.336e+02 1.207e+03 9.260e-02 2.063e-01 1.784e-01
1.144e-01 1.893e-01 6.232e-02 8.426e-01 1.199e+00 7.158e+00 1.064e+02
6.356e-03 4.765e-02 3.863e-02 1.519e-02 1.936e-02 5.252e-03 2.505e+01
3.627e+01 1.786e+02 1.926e+03 1.281e-01 5.329e-01 4.251e-01 1.941e-01
2.818e-01 1.005e-01], Class Predicted = 0
X21 = [1.218e+01 2.052e+01 7.722e+01 4.587e+02 8.013e-02 4.038e-02 2.383e-02
1.770e-02 1.739e-01 5.677e-02 1.924e-01 1.571e+00 1.183e+00 1.468e+01
5.080e-03 6.098e-03 1.069e-02 6.797e-03 1.447e-02 1.532e-03 1.334e+01
3.284e+01 8.458e+01 5.478e+02 1.123e-01 8.862e-02 1.145e-01 7.431e-02
2.694e-01 6.878e-02], Class Predicted = 1
X22 = [2.175e+01 2.099e+01 1.473e+02 1.491e+03 9.401e-02 1.961e-01 2.195e-01
1.088e-01 1.721e-01 6.194e-02 1.167e+00 1.352e+00 8.867e+00 1.568e+02
5.687e-03 4.960e-02 6.329e-02 1.561e-02 1.924e-02 4.614e-03 2.819e+01
2.818e+01 1.959e+02 2.384e+03 1.272e-01 4.725e-01 5.807e-01 1.841e-01

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2.833e-01 8.858e-02], Class Predicted = 0
 X23 = [1.616e+01 2.154e+01 1.062e+02 8.098e+02 1.008e-01 1.284e-01 1.043e-01
 5.613e-02 2.160e-01 5.891e-02 4.332e-01 1.265e+00 2.844e+00 4.368e+01
 4.877e-03 1.952e-02 2.219e-02 9.231e-03 1.535e-02 2.373e-03 1.947e+01
 3.168e+01 1.297e+02 1.175e+03 1.395e-01 3.055e-01 2.992e-01 1.312e-01
 3.480e-01 7.619e-02], Class Predicted = 0
 X24 = [1.247e+01 1.731e+01 8.045e+01 4.801e+02 8.928e-02 7.630e-02 3.609e-02
 2.369e-02 1.526e-01 6.046e-02 1.532e-01 7.810e-01 1.253e+00 1.191e+01
 3.796e-03 1.371e-02 1.346e-02 7.096e-03 1.536e-02 1.541e-03 1.406e+01
 2.434e+01 9.282e+01 6.073e+02 1.276e-01 2.506e-01 2.028e-01 1.053e-01
 3.035e-01 7.661e-02], Class Predicted = 1
 X25 = [1.187e+01 2.154e+01 7.683e+01 4.320e+02 6.613e-02 1.064e-01 8.777e-02
 2.386e-02 1.349e-01 6.612e-02 2.560e-01 1.554e+00 1.955e+00 2.024e+01
 6.854e-03 6.063e-02 6.663e-02 1.553e-02 2.354e-02 8.925e-03 1.279e+01
 2.818e+01 8.351e+01 5.072e+02 9.457e-02 3.399e-01 3.218e-01 8.750e-02
 2.305e-01 9.952e-02], Class Predicted = 1
 X26 = [1.275e+01 1.670e+01 8.251e+01 4.938e+02 1.125e-01 1.117e-01 3.880e-02
 2.995e-02 2.120e-01 6.623e-02 3.834e-01 1.003e+00 2.495e+00 2.862e+01
 7.509e-03 1.561e-02 1.977e-02 9.199e-03 1.805e-02 3.629e-03 1.445e+01
 2.174e+01 9.363e+01 6.241e+02 1.475e-01 1.979e-01 1.423e-01 8.045e-02
 3.071e-01 8.557e-02], Class Predicted = 1
 X27 = [1.441e+01 1.973e+01 9.603e+01 6.510e+02 8.757e-02 1.676e-01 1.362e-01
 6.602e-02 1.714e-01 7.192e-02 8.811e-01 1.770e+00 4.360e+00 7.711e+01
 7.762e-03 1.064e-01 9.960e-02 2.771e-02 4.077e-02 2.286e-02 1.577e+01
 2.213e+01 1.017e+02 7.673e+02 9.983e-02 2.472e-01 2.220e-01 1.021e-01
 2.272e-01 8.799e-02], Class Predicted = 1
 X28 = [1.801e+01 2.056e+01 1.184e+02 1.007e+03 1.001e-01 1.289e-01 1.170e-01
 7.762e-02 2.116e-01 6.077e-02 7.548e-01 1.288e+00 5.353e+00 8.974e+01
 7.997e-03 2.700e-02 3.737e-02 1.648e-02 2.897e-02 3.996e-03 2.153e+01
 2.606e+01 1.434e+02 1.426e+03 1.309e-01 2.327e-01 2.544e-01 1.489e-01
 3.251e-01 7.625e-02], Class Predicted = 0
 X29 = [1.154e+01 1.072e+01 7.373e+01 4.091e+02 8.597e-02 5.969e-02 1.367e-02
 8.907e-03 1.833e-01 6.100e-02 1.312e-01 3.602e-01 1.107e+00 9.438e+00
 4.124e-03 1.340e-02 1.003e-02 4.667e-03 2.032e-02 1.952e-03 1.234e+01
 1.287e+01 8.123e+01 4.678e+02 1.092e-01 1.626e-01 8.324e-02 4.715e-02
 3.390e-01 7.434e-02], Class Predicted = 1
 X30 = [1.115e+01 1.308e+01 7.087e+01 3.819e+02 9.754e-02 5.113e-02 1.982e-02
 1.786e-02 1.830e-01 6.105e-02 2.251e-01 7.815e-01 1.429e+00 1.548e+01
 9.019e-03 8.985e-03 1.196e-02 8.232e-03 2.388e-02 1.619e-03 1.199e+01
 1.630e+01 7.625e+01 4.408e+02 1.341e-01 8.971e-02 7.116e-02 5.506e-02
 2.859e-01 6.772e-02], Class Predicted = 1
 X31 = [2.051e+01 2.781e+01 1.344e+02 1.319e+03 9.159e-02 1.074e-01 1.554e-01
 8.340e-02 1.448e-01 5.592e-02 5.240e-01 1.189e+00 3.767e+00 7.001e+01
 5.020e-03 2.062e-02 3.457e-02 1.091e-02 1.298e-02 2.887e-03 2.447e+01
 3.738e+01 1.627e+02 1.872e+03 1.223e-01 2.761e-01 4.146e-01 1.563e-01
 2.437e-01 8.328e-02], Class Predicted = 0
 X32 = [1.057e+01 2.022e+01 7.015e+01 3.383e+02 9.073e-02 1.660e-01 2.280e-01
 5.941e-02 2.188e-01 8.450e-02 1.115e-01 1.231e+00 2.363e+00 7.228e+00
 8.499e-03 7.643e-02 1.535e-01 2.919e-02 1.617e-02 1.220e-02 1.085e+01
 2.282e+01 7.651e+01 3.519e+02 1.143e-01 3.619e-01 6.030e-01 1.465e-01
 2.597e-01 1.200e-01], Class Predicted = 1
 X33 = [1.460e+01 2.329e+01 9.397e+01 6.647e+02 8.682e-02 6.636e-02 8.390e-02
 5.271e-02 1.627e-01 5.416e-02 4.157e-01 1.627e+00 2.914e+00 3.301e+01
 8.312e-03 1.742e-02 3.389e-02 1.576e-02 1.740e-02 2.871e-03 1.579e+01
 3.171e+01 1.022e+02 7.582e+02 1.312e-01 1.581e-01 2.675e-01 1.359e-01
 2.477e-01 6.836e-02], Class Predicted = 1
 X34 = [1.048e+01 1.498e+01 6.749e+01 3.336e+02 9.816e-02 1.013e-01 6.335e-02
 2.218e-02 1.925e-01 6.915e-02 3.276e-01 1.127e+00 2.564e+00 2.077e+01
 7.364e-03 3.867e-02 5.263e-02 1.264e-02 2.161e-02 4.830e-03 1.213e+01
 2.157e+01 8.141e+01 4.404e+02 1.327e-01 2.996e-01 2.939e-01 9.310e-02
 3.020e-01 9.646e-02], Class Predicted = 1
 X35 = [1.464e+01 1.685e+01 9.421e+01 6.660e+02 8.641e-02 6.698e-02 5.192e-02
 2.791e-02 1.409e-01 5.355e-02 2.204e-01 1.006e+00 1.471e+00 1.998e+01
 3.535e-03 1.393e-02 1.800e-02 6.144e-03 1.254e-02 1.219e-03 1.646e+01
 2.544e+01 1.060e+02 8.310e+02 1.142e-01 2.070e-01 2.437e-01 7.828e-02
 2.455e-01 6.596e-02], Class Predicted = 1
 X36 = [1.267e+01 1.730e+01 8.125e+01 4.899e+02 1.028e-01 7.664e-02 3.193e-02
 2.107e-02 1.707e-01 5.984e-02 2.100e-01 9.505e-01 1.566e+00 1.761e+01
 6.809e-03 9.514e-03 1.329e-02 6.474e-03 2.057e-02 1.784e-03 1.371e+01

2.110e+01 8.870e+01 5.744e+02 1.384e-01 1.212e-01 1.020e-01 5.602e-02
 2.688e-01 6.888e-02], Class Predicted = 1
 X37 = [1.496e+01 1.910e+01 9.703e+01 6.873e+02 8.992e-02 9.823e-02 5.940e-02
 4.819e-02 1.879e-01 5.852e-02 2.877e-01 9.480e-01 2.171e+00 2.487e+01
 5.332e-03 2.115e-02 1.536e-02 1.187e-02 1.522e-02 2.815e-03 1.625e+01
 2.619e+01 1.091e+02 8.098e+02 1.313e-01 3.030e-01 1.804e-01 1.489e-01
 2.962e-01 8.472e-02], Class Predicted = 1
 X38 = [2.110e+01 2.052e+01 1.381e+02 1.384e+03 9.684e-02 1.175e-01 1.572e-01
 1.155e-01 1.554e-01 5.661e-02 6.643e-01 1.361e+00 4.542e+00 8.189e+01
 5.467e-03 2.075e-02 3.185e-02 1.466e-02 1.029e-02 2.205e-03 2.568e+01
 3.207e+01 1.682e+02 2.022e+03 1.368e-01 3.101e-01 4.399e-01 2.280e-01
 2.268e-01 7.425e-02], Class Predicted = 0
 X39 = [1.902e+01 2.459e+01 1.220e+02 1.076e+03 9.029e-02 1.206e-01 1.468e-01
 8.271e-02 1.953e-01 5.629e-02 5.495e-01 6.636e-01 3.055e+00 5.765e+01
 3.872e-03 1.842e-02 3.710e-02 1.200e-02 1.964e-02 3.337e-03 2.456e+01
 3.041e+01 1.529e+02 1.623e+03 1.249e-01 3.206e-01 5.755e-01 1.956e-01
 3.956e-01 9.288e-02], Class Predicted = 0
 X40 = [1.180e+01 1.658e+01 7.899e+01 4.320e+02 1.091e-01 1.700e-01 1.659e-01
 7.415e-02 2.678e-01 7.371e-02 3.197e-01 1.426e+00 2.281e+00 2.472e+01
 5.427e-03 3.633e-02 4.649e-02 1.843e-02 5.628e-02 4.635e-03 1.374e+01
 2.638e+01 9.193e+01 5.917e+02 1.385e-01 4.092e-01 4.504e-01 1.865e-01
 5.774e-01 1.030e-01], Class Predicted = 1
 X41 = [1.426e+01 1.965e+01 9.783e+01 6.299e+02 7.837e-02 2.233e-01 3.003e-01
 7.798e-02 1.704e-01 7.769e-02 3.628e-01 1.490e+00 3.399e+00 2.925e+01
 5.298e-03 7.446e-02 1.435e-01 2.292e-02 2.566e-02 1.298e-02 1.530e+01
 2.373e+01 1.070e+02 7.090e+02 8.949e-02 4.193e-01 6.783e-01 1.505e-01
 2.398e-01 1.082e-01], Class Predicted = 0
 X42 = [1.760e+01 2.333e+01 1.190e+02 9.805e+02 9.289e-02 2.004e-01 2.136e-01
 1.002e-01 1.696e-01 7.369e-02 9.289e-01 1.465e+00 5.801e+00 1.049e+02
 6.766e-03 7.025e-02 6.591e-02 2.311e-02 1.673e-02 1.130e-02 2.157e+01
 2.887e+01 1.436e+02 1.437e+03 1.207e-01 4.785e-01 5.165e-01 1.996e-01
 2.301e-01 1.224e-01], Class Predicted = 0
 X43 = [8.618e+00 1.179e+01 5.434e+01 2.245e+02 9.752e-02 5.272e-02 2.061e-02
 7.799e-03 1.683e-01 7.187e-02 1.559e-01 5.796e-01 1.046e+00 8.322e+00
 1.011e-02 1.055e-02 1.981e-02 5.742e-03 2.090e-02 2.788e-03 9.507e+00
 1.540e+01 5.990e+01 2.749e+02 1.733e-01 1.239e-01 1.168e-01 4.419e-02
 3.220e-01 9.026e-02], Class Predicted = 1
 X44 = [1.419e+01 2.381e+01 9.287e+01 6.107e+02 9.463e-02 1.306e-01 1.115e-01
 6.462e-02 2.235e-01 6.433e-02 4.207e-01 1.845e+00 3.534e+00 3.100e+01
 1.088e-02 3.710e-02 3.688e-02 1.627e-02 4.499e-02 4.768e-03 1.686e+01
 3.485e+01 1.150e+02 8.113e+02 1.559e-01 4.059e-01 3.744e-01 1.772e-01
 4.724e-01 1.026e-01], Class Predicted = 0
 X45 = [2.016e+01 1.966e+01 1.311e+02 1.274e+03 8.020e-02 8.564e-02 1.155e-01
 7.726e-02 1.928e-01 5.096e-02 5.925e-01 6.863e-01 3.868e+00 7.485e+01
 4.536e-03 1.376e-02 2.645e-02 1.247e-02 2.193e-02 1.589e-03 2.306e+01
 2.303e+01 1.502e+02 1.657e+03 1.054e-01 1.537e-01 2.606e-01 1.425e-01
 3.055e-01 5.933e-02], Class Predicted = 0
 X46 = [1.216e+01 1.803e+01 7.829e+01 4.553e+02 9.087e-02 7.838e-02 2.916e-02
 1.527e-02 1.464e-01 6.284e-02 2.194e-01 1.190e+00 1.678e+00 1.626e+01
 4.911e-03 1.666e-02 1.397e-02 5.161e-03 1.454e-02 1.858e-03 1.334e+01
 2.787e+01 8.883e+01 5.474e+02 1.208e-01 2.279e-01 1.620e-01 5.690e-02
 2.406e-01 7.729e-02], Class Predicted = 1
 X47 = [1.283e+01 2.233e+01 8.526e+01 5.032e+02 1.088e-01 1.799e-01 1.695e-01
 6.861e-02 2.123e-01 7.254e-02 3.061e-01 1.069e+00 2.257e+00 2.513e+01
 6.983e-03 3.858e-02 4.683e-02 1.499e-02 1.680e-02 5.617e-03 1.520e+01
 3.015e+01 1.053e+02 7.060e+02 1.777e-01 5.343e-01 6.282e-01 1.977e-01
 3.407e-01 1.243e-01], Class Predicted = 0
 X48 = [1.570e+01 2.031e+01 1.012e+02 7.666e+02 9.597e-02 8.799e-02 6.593e-02
 5.189e-02 1.618e-01 5.549e-02 3.699e-01 1.150e+00 2.406e+00 4.098e+01
 4.626e-03 2.263e-02 1.954e-02 9.767e-03 1.547e-02 2.430e-03 2.011e+01
 3.282e+01 1.293e+02 1.269e+03 1.414e-01 3.547e-01 2.902e-01 1.541e-01
 3.437e-01 8.631e-02], Class Predicted = 0
 X49 = [1.969e+01 2.125e+01 1.300e+02 1.203e+03 1.096e-01 1.599e-01 1.974e-01
 1.279e-01 2.069e-01 5.999e-02 7.456e-01 7.869e-01 4.585e+00 9.403e+01
 6.150e-03 4.006e-02 3.832e-02 2.058e-02 2.250e-02 4.571e-03 2.357e+01
 2.553e+01 1.525e+02 1.709e+03 1.444e-01 4.245e-01 4.504e-01 2.430e-01
 3.613e-01 8.758e-02], Class Predicted = 0
 X50 = [2.161e+01 2.228e+01 1.444e+02 1.407e+03 1.167e-01 2.087e-01 2.810e-01
 1.562e-01 2.162e-01 6.606e-02 6.242e-01 9.209e-01 4.158e+00 8.099e+01

5.215e-03 3.726e-02 4.718e-02 1.288e-02 2.045e-02 4.028e-03 2.623e+01
 2.874e+01 1.720e+02 2.081e+03 1.502e-01 5.717e-01 7.053e-01 2.422e-01
 3.828e-01 1.007e-01], Class Predicted = 0
 X51 = [1.286e+01 1.800e+01 8.319e+01 5.063e+02 9.934e-02 9.546e-02 3.889e-02
 2.315e-02 1.718e-01 5.997e-02 2.655e-01 1.095e+00 1.778e+00 2.035e+01
 5.293e-03 1.661e-02 2.071e-02 8.179e-03 1.748e-02 2.848e-03 1.424e+01
 2.482e+01 9.188e+01 6.221e+02 1.289e-01 2.141e-01 1.731e-01 7.926e-02
 2.779e-01 7.918e-02], Class Predicted = 1
 X52 = [1.940e+01 1.818e+01 1.272e+02 1.145e+03 1.037e-01 1.442e-01 1.626e-01
 9.464e-02 1.893e-01 5.892e-02 4.709e-01 9.951e-01 2.903e+00 5.316e+01
 5.654e-03 2.199e-02 3.059e-02 1.499e-02 1.623e-02 1.965e-03 2.379e+01
 2.865e+01 1.524e+02 1.628e+03 1.518e-01 3.749e-01 4.316e-01 2.252e-01
 3.590e-01 7.787e-02], Class Predicted = 0
 X53 = [2.044e+01 2.178e+01 1.338e+02 1.293e+03 9.150e-02 1.131e-01 9.799e-02
 7.785e-02 1.618e-01 5.557e-02 5.781e-01 9.168e-01 4.218e+00 7.244e+01
 6.208e-03 1.906e-02 2.375e-02 1.461e-02 1.445e-02 1.906e-03 2.431e+01
 2.637e+01 1.612e+02 1.780e+03 1.327e-01 2.376e-01 2.702e-01 1.765e-01
 2.609e-01 6.735e-02], Class Predicted = 0
 X54 = [1.454e+01 2.754e+01 9.673e+01 6.588e+02 1.139e-01 1.595e-01 1.639e-01
 7.364e-02 2.303e-01 7.077e-02 3.700e-01 1.033e+00 2.879e+00 3.255e+01
 5.607e-03 4.240e-02 4.741e-02 1.090e-02 1.857e-02 5.466e-03 1.746e+01
 3.713e+01 1.241e+02 9.432e+02 1.678e-01 6.577e-01 7.026e-01 1.712e-01
 4.218e-01 1.341e-01], Class Predicted = 0
 X55 = [1.458e+01 1.366e+01 9.429e+01 6.588e+02 9.832e-02 8.918e-02 8.222e-02
 4.349e-02 1.739e-01 5.640e-02 4.165e-01 6.237e-01 2.561e+00 3.711e+01
 4.953e-03 1.812e-02 3.035e-02 8.648e-03 1.539e-02 2.281e-03 1.676e+01
 1.724e+01 1.085e+02 8.620e+02 1.223e-01 1.928e-01 2.492e-01 9.186e-02
 2.626e-01 7.048e-02], Class Predicted = 1
 X56 = [1.799e+01 1.038e+01 1.228e+02 1.001e+03 1.184e-01 2.776e-01 3.001e-01
 1.471e-01 2.419e-01 7.871e-02 1.095e+00 9.053e-01 8.589e+00 1.534e+02
 6.399e-03 4.904e-02 5.373e-02 1.587e-02 3.003e-02 6.193e-03 2.538e+01
 1.733e+01 1.846e+02 2.019e+03 1.622e-01 6.656e-01 7.119e-01 2.654e-01
 4.601e-01 1.189e-01], Class Predicted = 0
 X57 = [1.243e+01 1.700e+01 7.860e+01 4.773e+02 7.557e-02 3.454e-02 1.342e-02
 1.699e-02 1.472e-01 5.561e-02 3.778e-01 2.200e+00 2.487e+00 3.116e+01
 7.357e-03 1.079e-02 9.959e-03 1.120e-02 3.433e-02 2.961e-03 1.290e+01
 2.021e+01 8.176e+01 5.159e+02 8.409e-02 4.712e-02 2.237e-02 2.832e-02
 1.901e-01 5.932e-02], Class Predicted = 1
 X58 = [1.429e+01 1.682e+01 9.030e+01 6.326e+02 6.429e-02 2.675e-02 7.250e-03
 6.250e-03 1.508e-01 5.376e-02 1.302e-01 7.198e-01 8.439e-01 1.077e+01
 3.492e-03 3.710e-03 4.826e-03 3.608e-03 1.536e-02 1.381e-03 1.491e+01
 2.065e+01 9.444e+01 6.846e+02 8.567e-02 5.036e-02 3.866e-02 3.333e-02
 2.458e-01 6.120e-02], Class Predicted = 1
 X59 = [1.607e+01 1.965e+01 1.041e+02 8.177e+02 9.168e-02 8.424e-02 9.769e-02
 6.638e-02 1.798e-01 5.391e-02 7.474e-01 1.016e+00 5.029e+00 7.925e+01
 1.082e-02 2.203e-02 3.500e-02 1.809e-02 1.550e-02 1.948e-03 1.977e+01
 2.456e+01 1.288e+02 1.223e+03 1.500e-01 2.045e-01 2.829e-01 1.520e-01
 2.650e-01 6.387e-02], Class Predicted = 0
 X60 = [1.289e+01 1.411e+01 8.495e+01 5.122e+02 8.760e-02 1.346e-01 1.374e-01
 3.980e-02 1.596e-01 6.409e-02 2.025e-01 4.402e-01 2.393e+00 1.635e+01
 5.501e-03 5.592e-02 8.158e-02 1.370e-02 1.266e-02 7.555e-03 1.439e+01
 1.770e+01 1.050e+02 6.391e+02 1.254e-01 5.849e-01 7.727e-01 1.561e-01
 2.639e-01 1.178e-01], Class Predicted = 1
 X61 = [1.272e+01 1.767e+01 8.098e+01 5.013e+02 7.896e-02 4.522e-02 1.402e-02
 1.835e-02 1.459e-01 5.544e-02 2.954e-01 8.836e-01 2.109e+00 2.324e+01
 7.337e-03 1.174e-02 5.383e-03 5.623e-03 1.940e-02 1.180e-03 1.382e+01
 2.096e+01 8.887e+01 5.868e+02 1.068e-01 9.605e-02 3.469e-02 3.612e-02
 2.165e-01 6.025e-02], Class Predicted = 1
 X62 = [1.585e+01 2.395e+01 1.037e+02 7.827e+02 8.401e-02 1.002e-01 9.938e-02
 5.364e-02 1.847e-01 5.338e-02 4.033e-01 1.078e+00 2.903e+00 3.658e+01
 9.769e-03 3.126e-02 5.051e-02 1.992e-02 2.981e-02 3.002e-03 1.684e+01
 2.766e+01 1.120e+02 8.765e+02 1.131e-01 1.924e-01 2.322e-01 1.119e-01
 2.809e-01 6.287e-02], Class Predicted = 1
 X63 = [2.116e+01 2.304e+01 1.372e+02 1.404e+03 9.428e-02 1.022e-01 1.097e-01
 8.632e-02 1.769e-01 5.278e-02 6.917e-01 1.127e+00 4.303e+00 9.399e+01
 4.728e-03 1.259e-02 1.715e-02 1.038e-02 1.083e-02 1.987e-03 2.917e+01
 3.559e+01 1.880e+02 2.615e+03 1.401e-01 2.600e-01 3.155e-01 2.009e-01
 2.822e-01 7.526e-02], Class Predicted = 0
 X64 = [1.270e+01 1.217e+01 8.088e+01 4.950e+02 8.785e-02 5.794e-02 2.360e-02

2.402e-02 1.583e-01 6.275e-02 2.253e-01 6.457e-01 1.527e+00 1.737e+01
 6.131e-03 1.263e-02 9.075e-03 8.231e-03 1.713e-02 4.414e-03 1.365e+01
 1.692e+01 8.812e+01 5.669e+02 1.314e-01 1.607e-01 9.385e-02 8.224e-02
 2.775e-01 9.464e-02], Class Predicted = 1
 X65 = [1.223e+01 1.956e+01 7.854e+01 4.610e+02 9.586e-02 8.087e-02 4.187e-02
 4.107e-02 1.979e-01 6.013e-02 3.534e-01 1.326e+00 2.308e+00 2.724e+01
 7.514e-03 1.779e-02 1.401e-02 1.140e-02 1.503e-02 3.338e-03 1.444e+01
 2.836e+01 9.215e+01 6.384e+02 1.429e-01 2.042e-01 1.377e-01 1.080e-01
 2.668e-01 8.174e-02], Class Predicted = 1
 X66 = [1.096e+01 1.762e+01 7.079e+01 3.656e+02 9.687e-02 9.752e-02 5.263e-02
 2.788e-02 1.619e-01 6.408e-02 1.507e-01 1.583e+00 1.165e+00 1.009e+01
 9.501e-03 3.378e-02 4.401e-02 1.346e-02 1.322e-02 3.534e-03 1.162e+01
 2.651e+01 7.643e+01 4.075e+02 1.428e-01 2.510e-01 2.123e-01 9.861e-02
 2.289e-01 8.278e-02], Class Predicted = 1
 X67 = [8.950e+00 1.576e+01 5.874e+01 2.452e+02 9.462e-02 1.243e-01 9.263e-02
 2.308e-02 1.305e-01 7.163e-02 3.132e-01 9.789e-01 3.280e+00 1.694e+01
 1.835e-02 6.760e-02 9.263e-02 2.308e-02 2.384e-02 5.601e-03 9.414e+00
 1.707e+01 6.334e+01 2.700e+02 1.179e-01 1.879e-01 1.544e-01 3.846e-02
 1.652e-01 7.722e-02], Class Predicted = 1
 X68 = [1.573e+01 1.128e+01 1.028e+02 7.472e+02 1.043e-01 1.299e-01 1.191e-01
 6.211e-02 1.784e-01 6.259e-02 1.630e-01 3.871e-01 1.143e+00 1.387e+01
 6.034e-03 1.820e-02 3.336e-02 1.067e-02 1.175e-02 2.256e-03 1.701e+01
 1.420e+01 1.125e+02 8.543e+02 1.541e-01 2.979e-01 4.004e-01 1.452e-01
 2.557e-01 8.181e-02], Class Predicted = 0
 X69 = [1.311e+01 2.254e+01 8.702e+01 5.294e+02 1.002e-01 1.483e-01 8.705e-02
 5.102e-02 1.850e-01 7.310e-02 1.931e-01 9.223e-01 1.491e+00 1.509e+01
 5.251e-03 3.041e-02 2.526e-02 8.304e-03 2.514e-02 4.198e-03 1.455e+01
 2.916e+01 9.948e+01 6.393e+02 1.349e-01 4.402e-01 3.162e-01 1.126e-01
 4.128e-01 1.076e-01], Class Predicted = 1
 X70 = [1.361e+01 2.498e+01 8.805e+01 5.827e+02 9.488e-02 8.511e-02 8.625e-02
 4.489e-02 1.609e-01 5.871e-02 4.565e-01 1.290e+00 2.861e+00 4.314e+01
 5.872e-03 1.488e-02 2.647e-02 9.921e-03 1.465e-02 2.355e-03 1.699e+01
 3.527e+01 1.086e+02 9.065e+02 1.265e-01 1.943e-01 3.169e-01 1.184e-01
 2.651e-01 7.397e-02], Class Predicted = 1
 X71 = [1.351e+01 1.889e+01 8.810e+01 5.581e+02 1.059e-01 1.147e-01 8.580e-02
 5.381e-02 1.806e-01 6.079e-02 2.136e-01 1.332e+00 1.513e+00 1.929e+01
 5.442e-03 1.957e-02 3.304e-02 1.367e-02 1.315e-02 2.464e-03 1.480e+01
 2.720e+01 9.733e+01 6.752e+02 1.428e-01 2.570e-01 3.438e-01 1.453e-01
 2.666e-01 7.686e-02], Class Predicted = 1
 X72 = [1.225e+01 2.244e+01 7.818e+01 4.665e+02 8.192e-02 5.200e-02 1.714e-02
 1.261e-02 1.544e-01 5.976e-02 2.239e-01 1.139e+00 1.577e+00 1.804e+01
 5.096e-03 1.205e-02 9.410e-03 4.551e-03 1.608e-02 2.399e-03 1.417e+01
 3.199e+01 9.274e+01 6.229e+02 1.256e-01 1.804e-01 1.230e-01 6.335e-02
 3.100e-01 8.203e-02], Class Predicted = 1
 X73 = [1.674e+01 2.159e+01 1.101e+02 8.695e+02 9.610e-02 1.336e-01 1.348e-01
 6.018e-02 1.896e-01 5.656e-02 4.615e-01 9.197e-01 3.008e+00 4.519e+01
 5.776e-03 2.499e-02 3.695e-02 1.195e-02 2.789e-02 2.665e-03 2.001e+01
 2.902e+01 1.335e+02 1.229e+03 1.563e-01 3.835e-01 5.409e-01 1.813e-01
 4.863e-01 8.633e-02], Class Predicted = 0
 X74 = [1.945e+01 1.933e+01 1.265e+02 1.169e+03 1.035e-01 1.188e-01 1.379e-01
 8.591e-02 1.776e-01 5.647e-02 5.959e-01 6.342e-01 3.797e+00 7.100e+01
 4.649e-03 1.800e-02 2.749e-02 1.267e-02 1.365e-02 2.550e-03 2.570e+01
 2.457e+01 1.631e+02 1.972e+03 1.497e-01 3.161e-01 4.317e-01 1.999e-01
 3.379e-01 8.950e-02], Class Predicted = 0
 X75 = [1.727e+01 2.542e+01 1.124e+02 9.288e+02 8.331e-02 1.109e-01 1.204e-01
 5.736e-02 1.467e-01 5.407e-02 5.100e-01 1.679e+00 3.283e+00 5.838e+01
 8.109e-03 4.308e-02 4.942e-02 1.742e-02 1.594e-02 3.739e-03 2.038e+01
 3.546e+01 1.328e+02 1.284e+03 1.436e-01 4.122e-01 5.036e-01 1.739e-01
 2.500e-01 7.944e-02], Class Predicted = 0
 X76 = [2.064e+01 1.735e+01 1.348e+02 1.335e+03 9.446e-02 1.076e-01 1.527e-01
 8.941e-02 1.571e-01 5.478e-02 6.137e-01 6.575e-01 4.119e+00 7.702e+01
 6.211e-03 1.895e-02 2.681e-02 1.232e-02 1.276e-02 1.711e-03 2.537e+01
 2.317e+01 1.668e+02 1.946e+03 1.562e-01 3.055e-01 4.159e-01 2.112e-01
 2.689e-01 7.055e-02], Class Predicted = 0
 X77 = [8.598e+00 2.098e+01 5.466e+01 2.218e+02 1.243e-01 8.963e-02 3.000e-02
 9.259e-03 1.828e-01 6.757e-02 3.582e-01 2.067e+00 2.493e+00 1.839e+01
 1.193e-02 3.162e-02 3.000e-02 9.259e-03 3.357e-02 3.048e-03 9.565e+00
 2.704e+01 6.206e+01 2.739e+02 1.639e-01 1.698e-01 9.001e-02 2.778e-02
 2.972e-01 7.712e-02], Class Predicted = 1

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X78 = [1.160e+01 2.449e+01 7.423e+01 4.172e+02 7.474e-02 5.688e-02 1.974e-02
1.313e-02 1.935e-01 5.878e-02 2.512e-01 1.786e+00 1.961e+00 1.821e+01
6.122e-03 2.337e-02 1.596e-02 6.998e-03 3.194e-02 2.211e-03 1.244e+01
3.162e+01 8.139e+01 4.765e+02 9.545e-02 1.361e-01 7.239e-02 4.815e-02
3.244e-01 6.745e-02], Class Predicted = 1
X79 = [1.218e+01 1.408e+01 7.725e+01 4.614e+02 7.734e-02 3.212e-02 1.123e-02
5.051e-03 1.673e-01 5.649e-02 2.113e-01 5.996e-01 1.438e+00 1.582e+01
5.343e-03 5.767e-03 1.123e-02 5.051e-03 1.977e-02 9.502e-04 1.285e+01
1.647e+01 8.160e+01 5.131e+02 1.001e-01 5.332e-02 4.116e-02 1.852e-02
2.293e-01 6.037e-02], Class Predicted = 1
X80 = [1.603e+01 1.551e+01 1.058e+02 7.932e+01 9.491e-02 1.371e-01 1.204e-01
7.041e-02 1.782e-01 5.976e-02 3.371e-01 7.476e-01 2.629e+00 3.327e+01
5.839e-03 3.245e-02 3.715e-02 1.459e-02 1.467e-02 3.121e-03 1.876e+01
2.198e+01 1.243e+02 1.070e+03 1.435e-01 4.478e-01 4.956e-01 1.981e-01
3.019e-01 9.124e-02], Class Predicted = 0
X81 = [9.787e+00 1.994e+01 6.211e+01 2.945e+02 1.024e-01 5.301e-02 6.829e-03
7.937e-03 1.350e-01 6.890e-02 3.350e-01 2.043e+00 2.132e+00 2.005e+01
1.113e-02 1.463e-02 5.308e-03 5.250e-03 1.801e-02 5.667e-03 1.092e+01
2.629e+01 6.881e+01 3.661e+02 1.316e-01 9.473e-02 2.049e-02 2.381e-02
1.934e-01 8.988e-02], Class Predicted = 1
X82 = [1.791e+01 2.102e+01 1.244e+02 9.940e+02 1.230e-01 2.576e-01 3.189e-01
1.198e-01 2.113e-01 7.115e-02 4.030e-01 7.747e-01 3.123e+00 4.151e+01
7.159e-03 3.718e-02 6.165e-02 1.051e-02 1.591e-02 5.099e-03 2.080e+01
2.778e+01 1.496e+02 1.304e+03 1.873e-01 5.917e-01 9.034e-01 1.964e-01
3.245e-01 1.198e-01], Class Predicted = 0
X83 = [1.626e+01 2.188e+01 1.075e+02 8.268e+02 1.165e-01 1.283e-01 1.799e-01
7.981e-02 1.869e-01 6.532e-02 5.706e-01 1.457e+00 2.961e+00 5.772e+01
1.056e-02 3.756e-02 5.839e-02 1.186e-02 4.022e-02 6.187e-03 1.773e+01
2.521e+01 1.137e+02 9.752e+02 1.426e-01 2.116e-01 3.344e-01 1.047e-01
2.736e-01 7.953e-02], Class Predicted = 0
X84 = [1.450e+01 1.089e+01 9.428e+01 6.407e+02 1.101e-01 1.099e-01 8.842e-02
5.778e-02 1.856e-01 6.402e-02 2.929e-01 8.570e-01 1.928e+00 2.419e+01
3.818e-03 1.276e-02 2.882e-02 1.200e-02 1.910e-02 2.808e-03 1.570e+01
1.598e+01 1.028e+02 7.455e+02 1.313e-01 1.788e-01 2.560e-01 1.221e-01
2.889e-01 8.006e-02], Class Predicted = 1
X85 = [1.561e+01 1.938e+01 1.000e+02 7.586e+02 7.840e-02 5.616e-02 4.209e-02
2.847e-02 1.547e-01 5.443e-02 2.298e-01 9.988e-01 1.534e+00 2.218e+01
2.826e-03 9.105e-03 1.311e-02 5.174e-03 1.013e-02 1.345e-03 1.791e+01
3.167e+01 1.159e+02 9.886e+02 1.084e-01 1.807e-01 2.260e-01 8.568e-02
2.683e-01 6.829e-02], Class Predicted = 0
X86 = [1.371e+01 2.083e+01 9.020e+01 5.779e+02 1.189e-01 1.645e-01 9.366e-02
5.985e-02 2.196e-01 7.451e-02 5.835e-01 1.377e+00 3.856e+00 5.096e+01
8.805e-03 3.029e-02 2.488e-02 1.448e-02 1.486e-02 5.412e-03 1.706e+01
2.814e+01 1.106e+02 8.970e+02 1.654e-01 3.682e-01 2.678e-01 1.556e-01
3.196e-01 1.151e-01], Class Predicted = 0
X87 = [1.222e+01 2.004e+01 7.947e+01 4.531e+02 1.096e-01 1.152e-01 8.175e-02
2.166e-02 2.124e-01 6.894e-02 1.811e-01 7.959e-01 9.857e-01 1.258e+01
6.272e-03 2.198e-02 3.966e-02 9.894e-03 1.320e-02 3.813e-03 1.316e+01
2.417e+01 8.513e+01 5.153e+02 1.402e-01 2.315e-01 3.535e-01 8.088e-02
2.709e-01 8.839e-02], Class Predicted = 1
X88 = [1.295e+01 1.602e+01 8.314e+01 5.137e+02 1.005e-01 7.943e-02 6.155e-02
3.370e-02 1.730e-01 6.470e-02 2.094e-01 7.636e-01 1.231e+00 1.767e+01
8.725e-03 2.003e-02 2.335e-02 1.132e-02 2.625e-02 4.726e-03 1.374e+01
1.993e+01 8.881e+01 5.854e+02 1.483e-01 2.068e-01 2.241e-01 1.056e-01
3.380e-01 9.584e-02], Class Predicted = 1
X89 = [1.328e+01 1.372e+01 8.579e+01 5.418e+02 8.363e-02 8.575e-02 5.077e-02
2.864e-02 1.617e-01 5.594e-02 1.833e-01 5.308e-01 1.592e+00 1.526e+01
4.271e-03 2.073e-02 2.828e-02 8.468e-03 1.461e-02 2.613e-03 1.424e+01
1.737e+01 9.659e+01 6.237e+02 1.166e-01 2.685e-01 2.866e-01 9.173e-02
2.736e-01 7.320e-02], Class Predicted = 1
X90 = [1.134e+01 1.861e+01 7.276e+01 3.912e+02 1.049e-01 8.499e-02 4.302e-02
2.594e-02 1.927e-01 6.211e-02 2.430e-01 1.010e+00 1.491e+00 1.819e+01
8.577e-03 1.641e-02 2.099e-02 1.107e-02 2.434e-02 1.217e-03 1.247e+01
2.303e+01 7.915e+01 4.786e+02 1.483e-01 1.574e-01 1.624e-01 8.542e-02
3.060e-01 6.783e-02], Class Predicted = 1
X91 = [9.405e+00 2.170e+01 5.960e+01 2.712e+02 1.044e-01 6.159e-02 2.047e-02
1.257e-02 2.025e-01 6.601e-02 4.302e-01 2.878e+00 2.759e+00 2.517e+01
1.474e-02 1.674e-02 1.367e-02 8.674e-03 3.044e-02 4.590e-03 1.085e+01
3.124e+01 6.873e+01 3.594e+02 1.526e-01 1.193e-01 6.141e-02 3.770e-02

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2.872e-01 8.304e-02], Class Predicted = 1
 X92 = [9.029e+00 1.733e+01 5.879e+01 2.505e+02 1.066e-01 1.413e-01 3.130e-01
 4.375e-02 2.111e-01 8.046e-02 3.274e-01 1.194e+00 1.885e+00 1.767e+01
 9.549e-03 8.606e-02 3.038e-01 3.322e-02 4.197e-02 9.559e-03 1.031e+01
 2.265e+01 6.550e+01 3.247e+02 1.482e-01 4.365e-01 1.252e+00 1.750e-01
 4.228e-01 1.175e-01], Class Predicted = 1
 X93 = [1.368e+01 1.633e+01 8.776e+01 5.755e+02 9.277e-02 7.255e-02 1.752e-02
 1.880e-02 1.631e-01 6.155e-02 2.047e-01 4.801e-01 1.373e+00 1.725e+01
 3.828e-03 7.228e-03 7.078e-03 5.077e-03 1.054e-02 1.697e-03 1.585e+01
 2.020e+01 1.016e+02 7.734e+02 1.264e-01 1.564e-01 1.206e-01 8.704e-02
 2.806e-01 7.782e-02], Class Predicted = 1
 X94 = [1.921e+01 1.857e+01 1.255e+02 1.152e+03 1.053e-01 1.267e-01 1.323e-01
 8.994e-02 1.917e-01 5.961e-02 7.275e-01 1.193e+00 4.837e+00 1.025e+02
 6.458e-03 2.306e-02 2.945e-02 1.538e-02 1.852e-02 2.608e-03 2.614e+01
 2.814e+01 1.701e+02 2.145e+03 1.624e-01 3.511e-01 3.879e-01 2.091e-01
 3.537e-01 8.294e-02], Class Predicted = 0
 X95 = [1.230e+01 1.590e+01 7.883e+01 4.637e+02 8.080e-02 7.253e-02 3.844e-02
 1.654e-02 1.667e-01 5.474e-02 2.382e-01 8.355e-01 1.687e+00 1.832e+01
 5.996e-03 2.212e-02 2.117e-02 6.433e-03 2.025e-02 1.725e-03 1.335e+01
 1.959e+01 8.665e+01 5.467e+02 1.096e-01 1.650e-01 1.423e-01 4.815e-02
 2.482e-01 6.306e-02], Class Predicted = 1
 X96 = [9.173e+00 1.386e+01 5.920e+01 2.609e+02 7.721e-02 8.751e-02 5.988e-02
 2.180e-02 2.341e-01 6.963e-02 4.098e-01 2.265e+00 2.608e+00 2.352e+01
 8.738e-03 3.938e-02 4.312e-02 1.560e-02 4.192e-02 5.822e-03 1.001e+01
 1.923e+01 6.559e+01 3.101e+02 9.836e-02 1.678e-01 1.397e-01 5.087e-02
 3.282e-01 8.490e-02], Class Predicted = 1
 X97 = [1.122e+01 3.381e+01 7.079e+01 3.868e+02 7.780e-02 3.574e-02 4.967e-03
 6.434e-03 1.845e-01 5.828e-02 2.239e-01 1.647e+00 1.489e+00 1.546e+01
 4.359e-03 6.813e-03 3.223e-03 3.419e-03 1.916e-02 2.534e-03 1.236e+01
 4.178e+01 7.844e+01 4.709e+02 9.994e-02 6.885e-02 2.318e-02 3.002e-02
 2.911e-01 7.307e-02], Class Predicted = 1
 X98 = [8.571e+00 1.310e+01 5.453e+01 2.213e+02 1.036e-01 7.632e-02 2.565e-02
 1.510e-02 1.678e-01 7.126e-02 1.267e-01 6.793e-01 1.069e+00 7.254e+00
 7.897e-03 1.762e-02 1.801e-02 7.320e-03 1.592e-02 3.925e-03 9.473e+00
 1.845e+01 6.330e+01 2.756e+02 1.641e-01 2.235e-01 1.754e-01 8.512e-02
 2.983e-01 1.049e-01], Class Predicted = 1
 X99 = [1.303e+01 1.842e+01 8.261e+01 5.238e+02 8.983e-02 3.766e-02 2.562e-02
 2.923e-02 1.467e-01 5.863e-02 1.839e-01 2.342e+00 1.170e+00 1.416e+01
 4.352e-03 4.899e-03 1.343e-02 1.164e-02 2.671e-02 1.777e-03 1.330e+01
 2.281e+01 8.446e+01 5.459e+02 9.701e-02 4.619e-02 4.833e-02 5.013e-02
 1.987e-01 6.169e-02], Class Predicted = 1
 X100 = [1.708e+01 2.715e+01 1.112e+02 9.309e+02 9.898e-02 1.110e-01 1.007e-01
 6.431e-02 1.793e-01 6.281e-02 9.291e-01 1.152e+00 6.051e+00 1.152e+02
 8.740e-03 2.219e-02 2.721e-02 1.458e-02 2.045e-02 4.417e-03 2.296e+01
 3.449e+01 1.521e+02 1.648e+03 1.600e-01 2.444e-01 2.639e-01 1.555e-01
 3.010e-01 9.060e-02], Class Predicted = 0
 X101 = [1.276e+01 1.337e+01 8.229e+01 5.041e+02 8.794e-02 7.948e-02 4.052e-02
 2.548e-02 1.601e-01 6.140e-02 3.265e-01 6.594e-01 2.346e+00 2.518e+01
 6.494e-03 2.768e-02 3.137e-02 1.069e-02 1.731e-02 4.392e-03 1.419e+01
 1.640e+01 9.204e+01 6.188e+02 1.194e-01 2.208e-01 1.769e-01 8.411e-02
 2.564e-01 8.253e-02], Class Predicted = 1
 X102 = [1.218e+01 1.784e+01 7.779e+01 4.511e+02 1.045e-01 7.057e-02 2.490e-02
 2.941e-02 1.900e-01 6.635e-02 3.661e-01 1.511e+00 2.410e+00 2.444e+01
 5.433e-03 1.179e-02 1.131e-02 1.519e-02 2.220e-02 3.408e-03 1.283e+01
 2.092e+01 8.214e+01 4.952e+02 1.140e-01 9.358e-02 4.980e-02 5.882e-02
 2.227e-01 7.376e-02], Class Predicted = 1
 X103 = [1.080e+01 2.198e+01 6.879e+01 3.599e+02 8.801e-02 5.743e-02 3.614e-02
 1.404e-02 2.016e-01 5.977e-02 3.077e-01 1.621e+00 2.240e+00 2.020e+01
 6.543e-03 2.148e-02 2.991e-02 1.045e-02 1.844e-02 2.690e-03 1.276e+01
 3.204e+01 8.369e+01 4.895e+02 1.303e-01 1.696e-01 1.927e-01 7.485e-02
 2.965e-01 7.662e-02], Class Predicted = 1
 X104 = [1.189e+01 1.835e+01 7.732e+01 4.322e+02 9.363e-02 1.154e-01 6.636e-02
 3.142e-02 1.967e-01 6.314e-02 2.963e-01 1.563e+00 2.087e+00 2.146e+01
 8.872e-03 4.192e-02 5.946e-02 1.785e-02 2.793e-02 4.775e-03 1.325e+01
 2.710e+01 8.620e+01 5.312e+02 1.405e-01 3.046e-01 2.806e-01 1.138e-01
 3.397e-01 8.365e-02], Class Predicted = 1
 X105 = [1.051e+01 2.309e+01 6.685e+01 3.342e+02 1.015e-01 6.797e-02 2.495e-02
 1.875e-02 1.695e-01 6.556e-02 2.868e-01 1.143e+00 2.289e+00 2.056e+01
 1.017e-02 1.443e-02 1.861e-02 1.250e-02 3.464e-02 1.971e-03 1.093e+01

2.422e+01 7.010e+01 3.627e+02 1.143e-01 8.614e-02 4.158e-02 3.125e-02
 2.227e-01 6.777e-02], Class Predicted = 1
 X106 = [1.405e+01 2.715e+01 9.138e+01 6.004e+02 9.929e-02 1.126e-01 4.462e-02
 4.304e-02 1.537e-01 6.171e-02 3.645e-01 1.492e+00 2.888e+00 2.984e+01
 7.256e-03 2.678e-02 2.071e-02 1.626e-02 2.080e-02 5.304e-03 1.530e+01
 3.317e+01 1.002e+02 7.067e+02 1.241e-01 2.264e-01 1.326e-01 1.048e-01
 2.250e-01 8.321e-02], Class Predicted = 1
 X107 = [9.423e+00 2.788e+01 5.926e+01 2.713e+02 8.123e-02 4.971e-02 0.000e+00
 0.000e+00 1.742e-01 6.059e-02 5.375e-01 2.927e+00 3.618e+00 2.911e+01
 1.159e-02 1.124e-02 0.000e+00 0.000e+00 3.004e-02 3.324e-03 1.049e+01
 3.424e+01 6.650e+01 3.306e+02 1.073e-01 7.158e-02 0.000e+00 0.000e+00
 2.475e-01 6.969e-02], Class Predicted = 1
 X108 = [1.373e+01 2.261e+01 9.360e+01 5.783e+02 1.131e-01 2.293e-01 2.128e-01
 8.025e-02 2.069e-01 7.682e-02 2.121e-01 1.169e+00 2.061e+00 1.921e+01
 6.429e-03 5.936e-02 5.501e-02 1.628e-02 1.961e-02 8.093e-03 1.503e+01
 3.201e+01 1.088e+02 6.977e+02 1.651e-01 7.725e-01 6.943e-01 2.208e-01
 3.596e-01 1.431e-01], Class Predicted = 0
 X109 = [1.377e+01 2.229e+01 9.063e+01 5.889e+02 1.200e-01 1.267e-01 1.385e-01
 6.526e-02 1.834e-01 6.877e-02 6.191e-01 2.112e+00 4.906e+00 4.970e+01
 1.380e-02 3.348e-02 4.665e-02 2.060e-02 2.689e-02 4.306e-03 1.639e+01
 3.401e+01 1.116e+02 8.069e+02 1.737e-01 3.122e-01 3.809e-01 1.673e-01
 3.080e-01 9.333e-02], Class Predicted = 0
 X110 = [2.020e+01 2.683e+01 1.337e+02 1.234e+03 9.905e-02 1.669e-01 1.641e-01
 1.265e-01 1.875e-01 6.020e-02 9.761e-01 1.892e+00 7.128e+00 1.036e+02
 8.439e-03 4.674e-02 5.904e-02 2.536e-02 3.710e-02 4.286e-03 2.419e+01
 3.381e+01 1.600e+02 1.671e+03 1.278e-01 3.416e-01 3.703e-01 2.152e-01
 3.271e-01 7.632e-02], Class Predicted = 0
 X111 = [1.989e+01 2.026e+01 1.305e+02 1.214e+03 1.037e-01 1.310e-01 1.411e-01
 9.431e-02 1.802e-01 6.188e-02 5.079e-01 8.737e-01 3.654e+00 5.970e+01
 5.089e-03 2.303e-02 3.052e-02 1.178e-02 1.057e-02 3.391e-03 2.373e+01
 2.523e+01 1.605e+02 1.646e+03 1.417e-01 3.309e-01 4.185e-01 1.613e-01
 2.549e-01 9.136e-02], Class Predicted = 0
 X112 = [1.442e+01 1.654e+01 9.415e+01 6.412e+02 9.751e-02 1.139e-01 8.007e-02
 4.223e-02 1.912e-01 6.412e-02 3.491e-01 7.706e-01 2.677e+00 3.214e+01
 4.577e-03 3.053e-02 3.840e-02 1.243e-02 1.873e-02 3.373e-03 1.667e+01
 2.151e+01 1.114e+02 8.621e+02 1.294e-01 3.371e-01 3.755e-01 1.414e-01
 3.053e-01 8.764e-02], Class Predicted = 1
 X113 = [1.108e+01 1.883e+01 7.330e+01 3.616e+02 1.216e-01 2.154e-01 1.689e-01
 6.367e-02 2.196e-01 7.950e-02 2.114e-01 1.027e+00 1.719e+00 1.399e+01
 7.405e-03 4.549e-02 4.588e-02 1.339e-02 1.738e-02 4.435e-03 1.324e+01
 3.282e+01 9.176e+01 5.081e+02 2.184e-01 9.379e-01 8.402e-01 2.524e-01
 4.154e-01 1.403e-01], Class Predicted = 1
 X114 = [1.378e+01 1.579e+01 8.837e+01 5.859e+02 8.817e-02 6.718e-02 1.055e-02
 9.937e-03 1.405e-01 5.848e-02 3.563e-01 4.833e-01 2.235e+00 2.934e+01
 6.432e-03 1.156e-02 7.741e-03 5.657e-03 1.227e-02 2.564e-03 1.527e+01
 1.750e+01 9.790e+01 7.066e+02 1.072e-01 1.071e-01 3.517e-02 3.312e-02
 1.859e-01 6.810e-02], Class Predicted = 1
 X115 = [1.075e+01 1.497e+01 6.826e+01 3.553e+02 7.793e-02 5.139e-02 2.251e-02
 7.875e-03 1.399e-01 5.688e-02 2.525e-01 1.239e+00 1.806e+00 1.774e+01
 6.547e-03 1.781e-02 2.018e-02 5.612e-03 1.671e-02 2.360e-03 1.195e+01
 2.072e+01 7.779e+01 4.412e+02 1.076e-01 1.223e-01 9.755e-02 3.413e-02
 2.300e-01 6.769e-02], Class Predicted = 1
 X116 = [1.478e+01 2.394e+01 9.740e+01 6.683e+02 1.172e-01 1.479e-01 1.267e-01
 9.029e-02 1.953e-01 6.654e-02 3.577e-01 1.281e+00 2.450e+00 3.524e+01
 6.703e-03 2.310e-02 2.315e-02 1.184e-02 1.900e-02 3.224e-03 1.731e+01
 3.339e+01 1.146e+02 9.251e+02 1.648e-01 3.416e-01 3.024e-01 1.614e-01
 3.321e-01 8.911e-02], Class Predicted = 0
 X117 = [1.175e+01 1.756e+01 7.589e+01 4.229e+02 1.073e-01 9.713e-02 5.282e-02
 4.440e-02 1.598e-01 6.677e-02 4.384e-01 1.907e+00 3.149e+00 3.066e+01
 6.587e-03 1.815e-02 1.737e-02 1.316e-02 1.835e-02 2.318e-03 1.350e+01
 2.798e+01 8.852e+01 5.523e+02 1.349e-01 1.854e-01 1.366e-01 1.010e-01
 2.478e-01 7.757e-02], Class Predicted = 1
 X118 = [1.301e+01 2.222e+01 8.201e+01 5.264e+02 6.251e-02 1.938e-02 1.595e-03
 1.852e-03 1.395e-01 5.234e-02 1.731e-01 1.142e+00 1.101e+00 1.434e+01
 3.418e-03 2.252e-03 1.595e-03 1.852e-03 1.613e-02 9.683e-04 1.400e+01
 2.902e+01 8.818e+01 6.088e+02 8.125e-02 3.432e-02 7.977e-03 9.259e-03
 2.295e-01 5.843e-02], Class Predicted = 1
 X119 = [2.047e+01 2.067e+01 1.347e+02 1.299e+03 9.156e-02 1.313e-01 1.523e-01
 1.015e-01 2.166e-01 5.419e-02 8.336e-01 1.736e+00 5.168e+00 1.004e+02

4.938e-03 3.089e-02 4.093e-02 1.699e-02 2.816e-02 2.719e-03 2.323e+01
 2.715e+01 1.520e+02 1.645e+03 1.097e-01 2.534e-01 3.092e-01 1.613e-01
 3.220e-01 6.386e-02], Class Predicted = 0
 X120 = [1.169e+01 2.444e+01 7.637e+01 4.064e+02 1.236e-01 1.552e-01 4.515e-02
 4.531e-02 2.131e-01 7.405e-02 2.957e-01 1.978e+00 2.158e+00 2.095e+01
 1.288e-02 3.495e-02 1.865e-02 1.766e-02 1.560e-02 5.824e-03 1.298e+01
 3.219e+01 8.612e+01 4.877e+02 1.768e-01 3.251e-01 1.395e-01 1.308e-01
 2.803e-01 9.970e-02], Class Predicted = 1
 X121 = [1.157e+01 1.904e+01 7.420e+01 4.097e+02 8.546e-02 7.722e-02 5.485e-02
 1.428e-02 2.031e-01 6.267e-02 2.864e-01 1.440e+00 2.206e+00 2.030e+01
 7.278e-03 2.047e-02 4.447e-02 8.799e-03 1.868e-02 3.339e-03 1.307e+01
 2.698e+01 8.643e+01 5.205e+02 1.249e-01 1.937e-01 2.560e-01 6.664e-02
 3.035e-01 8.284e-02], Class Predicted = 1
 X122 = [1.380e+01 1.579e+01 9.043e+01 5.841e+02 1.007e-01 1.280e-01 7.789e-02
 5.069e-02 1.662e-01 6.566e-02 2.787e-01 6.205e-01 1.957e+00 2.335e+01
 4.717e-03 2.065e-02 1.759e-02 9.206e-03 1.220e-02 3.130e-03 1.657e+01
 2.086e+01 1.103e+02 8.124e+02 1.411e-01 3.542e-01 2.779e-01 1.383e-01
 2.589e-01 1.030e-01], Class Predicted = 1
 X123 = [1.445e+01 2.022e+01 9.449e+01 6.427e+02 9.872e-02 1.206e-01 1.180e-01
 5.980e-02 1.950e-01 6.466e-02 2.092e-01 6.509e-01 1.446e+00 1.942e+01
 4.044e-03 1.597e-02 2.000e-02 7.303e-03 1.522e-02 1.976e-03 1.833e+01
 3.012e+01 1.179e+02 1.044e+03 1.552e-01 4.056e-01 4.967e-01 1.838e-01
 4.753e-01 1.013e-01], Class Predicted = 0
 X124 = [1.546e+01 1.948e+01 1.017e+02 7.489e+02 1.092e-01 1.223e-01 1.466e-01
 8.087e-02 1.931e-01 5.796e-02 4.743e-01 7.859e-01 3.094e+00 4.831e+01
 6.240e-03 1.484e-02 2.813e-02 1.093e-02 1.397e-02 2.461e-03 1.926e+01
 2.600e+01 1.249e+02 1.156e+03 1.546e-01 2.394e-01 3.791e-01 1.514e-01
 2.837e-01 8.019e-02], Class Predicted = 0
 X125 = [2.060e+01 2.933e+01 1.401e+02 1.265e+03 1.178e-01 2.770e-01 3.514e-01
 1.520e-01 2.397e-01 7.016e-02 7.260e-01 1.595e+00 5.772e+00 8.622e+01
 6.522e-03 6.158e-02 7.117e-02 1.664e-02 2.324e-02 6.185e-03 2.574e+01
 3.942e+01 1.846e+02 1.821e+03 1.650e-01 8.681e-01 9.387e-01 2.650e-01
 4.087e-01 1.240e-01], Class Predicted = 0
 X126 = [1.422e+01 2.312e+01 9.437e+01 6.099e+02 1.075e-01 2.413e-01 1.981e-01
 6.618e-02 2.384e-01 7.542e-02 2.860e-01 2.110e+00 2.112e+00 3.172e+01
 7.970e-03 1.354e-01 1.166e-01 1.666e-02 5.113e-02 1.172e-02 1.574e+01
 3.718e+01 1.064e+02 7.624e+02 1.533e-01 9.327e-01 8.488e-01 1.772e-01
 5.166e-01 1.446e-01], Class Predicted = 0
 X127 = [8.878e+00 1.549e+01 5.674e+01 2.410e+02 8.293e-02 7.698e-02 4.721e-02
 2.381e-02 1.930e-01 6.621e-02 5.381e-01 1.200e+00 4.277e+00 3.018e+01
 1.093e-02 2.899e-02 3.214e-02 1.506e-02 2.837e-02 4.174e-03 9.981e+00
 1.770e+01 6.527e+01 3.020e+02 1.015e-01 1.248e-01 9.441e-02 4.762e-02
 2.434e-01 7.431e-02], Class Predicted = 1
 X128 = [1.256e+01 1.907e+01 8.192e+01 4.858e+02 8.760e-02 1.038e-01 1.030e-01
 4.391e-02 1.533e-01 6.184e-02 3.602e-01 1.478e+00 3.212e+00 2.749e+01
 9.853e-03 4.235e-02 6.271e-02 1.966e-02 2.639e-02 4.205e-03 1.337e+01
 2.243e+01 8.902e+01 5.474e+02 1.096e-01 2.002e-01 2.388e-01 9.265e-02
 2.121e-01 7.188e-02], Class Predicted = 1
 X129 = [1.143e+01 1.731e+01 7.366e+01 3.980e+02 1.092e-01 9.486e-02 2.031e-02
 1.861e-02 1.645e-01 6.562e-02 2.843e-01 1.908e+00 1.937e+00 2.138e+01
 6.664e-03 1.735e-02 1.158e-02 9.520e-03 2.282e-02 3.526e-03 1.278e+01
 2.676e+01 8.266e+01 5.030e+02 1.413e-01 1.792e-01 7.708e-02 6.402e-02
 2.584e-01 8.096e-02], Class Predicted = 1
 X130 = [1.210e+01 1.772e+01 7.807e+01 4.462e+02 1.029e-01 9.758e-02 4.783e-02
 3.326e-02 1.937e-01 6.161e-02 2.841e-01 1.652e+00 1.869e+00 2.222e+01
 8.146e-03 1.631e-02 1.843e-02 7.513e-03 2.015e-02 1.798e-03 1.356e+01
 2.580e+01 8.833e+01 5.595e+02 1.432e-01 1.773e-01 1.603e-01 6.266e-02
 3.049e-01 7.081e-02], Class Predicted = 1
 X131 = [9.777e+00 1.699e+01 6.250e+01 2.902e+02 1.037e-01 8.404e-02 4.334e-02
 1.778e-02 1.584e-01 7.065e-02 4.030e-01 1.424e+00 2.747e+00 2.287e+01
 1.385e-02 2.932e-02 2.722e-02 1.023e-02 3.281e-02 4.638e-03 1.105e+01
 2.147e+01 7.168e+01 3.670e+02 1.467e-01 1.765e-01 1.300e-01 5.334e-02
 2.533e-01 8.468e-02], Class Predicted = 1
 X132 = [1.361e+01 2.469e+01 8.776e+01 5.726e+02 9.258e-02 7.862e-02 5.285e-02
 3.085e-02 1.761e-01 6.130e-02 2.310e-01 1.005e+00 1.752e+00 1.983e+01
 4.088e-03 1.174e-02 1.796e-02 6.880e-03 1.323e-02 1.465e-03 1.689e+01
 3.564e+01 1.132e+02 8.487e+02 1.471e-01 2.884e-01 3.796e-01 1.329e-01
 3.470e-01 7.900e-02], Class Predicted = 1
 X133 = [9.397e+00 2.168e+01 5.975e+01 2.688e+02 7.969e-02 6.053e-02 3.735e-02

5.128e-03 1.274e-01 6.724e-02 1.186e-01 1.182e+00 1.174e+00 6.802e+00
 5.515e-03 2.674e-02 3.735e-02 5.128e-03 1.951e-02 4.583e-03 9.965e+00
 2.799e+01 6.661e+01 3.010e+02 1.086e-01 1.887e-01 1.868e-01 2.564e-02
 2.376e-01 9.206e-02], Class Predicted = 1
 X134 = [1.785e+01 1.323e+01 1.146e+02 9.921e+02 7.838e-02 6.217e-02 4.445e-02
 4.178e-02 1.220e-01 5.243e-02 4.834e-01 1.046e+00 3.163e+00 5.095e+01
 4.369e-03 8.274e-03 1.153e-02 7.437e-03 1.302e-02 1.309e-03 1.982e+01
 1.842e+01 1.271e+02 1.210e+03 9.862e-02 9.976e-02 1.048e-01 8.341e-02
 1.783e-01 5.871e-02], Class Predicted = 0
 X135 = [1.317e+01 1.822e+01 8.428e+01 5.373e+02 7.466e-02 5.994e-02 4.859e-02
 2.870e-02 1.454e-01 5.549e-02 2.023e-01 6.850e-01 1.236e+00 1.689e+01
 5.969e-03 1.493e-02 1.564e-02 8.463e-03 1.093e-02 1.672e-03 1.490e+01
 2.389e+01 9.510e+01 6.876e+02 1.282e-01 1.965e-01 1.876e-01 1.045e-01
 2.235e-01 6.925e-02], Class Predicted = 1
 X136 = [1.444e+01 1.518e+01 9.397e+01 6.401e+02 9.970e-02 1.021e-01 8.487e-02
 5.532e-02 1.724e-01 6.081e-02 2.406e-01 7.394e-01 2.120e+00 2.120e+01
 5.706e-03 2.297e-02 3.114e-02 1.493e-02 1.454e-02 2.528e-03 1.585e+01
 1.985e+01 1.086e+02 7.669e+02 1.316e-01 2.735e-01 3.103e-01 1.599e-01
 2.691e-01 7.683e-02], Class Predicted = 1
 X137 = [1.553e+01 3.356e+01 1.037e+02 7.449e+02 1.063e-01 1.639e-01 1.751e-01
 8.399e-02 2.091e-01 6.650e-02 2.419e-01 1.278e+00 1.903e+00 2.302e+01
 5.345e-03 2.556e-02 2.889e-02 1.022e-02 9.947e-03 3.359e-03 1.849e+01
 4.954e+01 1.263e+02 1.035e+03 1.883e-01 5.564e-01 5.703e-01 2.014e-01
 3.512e-01 1.204e-01], Class Predicted = 0
 X138 = [9.567e+00 1.591e+01 6.021e+01 2.796e+02 8.464e-02 4.087e-02 1.652e-02
 1.667e-02 1.551e-01 6.403e-02 2.152e-01 8.301e-01 1.215e+00 1.264e+01
 1.164e-02 1.040e-02 1.186e-02 9.623e-03 2.383e-02 3.540e-03 1.051e+01
 1.916e+01 6.574e+01 3.359e+02 1.504e-01 9.515e-02 7.161e-02 7.222e-02
 2.757e-01 8.178e-02], Class Predicted = 1
 X139 = [1.227e+01 1.792e+01 7.841e+01 4.661e+02 8.685e-02 6.526e-02 3.211e-02
 2.653e-02 1.966e-01 5.597e-02 3.342e-01 1.781e+00 2.079e+00 2.579e+01
 5.888e-03 2.310e-02 2.059e-02 1.075e-02 2.578e-02 2.267e-03 1.410e+01
 2.888e+01 8.900e+01 6.102e+02 1.240e-01 1.795e-01 1.377e-01 9.532e-02
 3.455e-01 6.896e-02], Class Predicted = 1
 X140 = [2.034e+01 2.151e+01 1.359e+02 1.264e+03 1.170e-01 1.875e-01 2.565e-01
 1.504e-01 2.569e-01 6.670e-02 5.702e-01 1.023e+00 4.012e+00 6.906e+01
 5.485e-03 2.431e-02 3.190e-02 1.369e-02 2.768e-02 3.345e-03 2.530e+01
 3.186e+01 1.711e+02 1.938e+03 1.592e-01 4.492e-01 5.344e-01 2.685e-01
 5.558e-01 1.024e-01], Class Predicted = 0
 X141 = [1.071e+01 2.039e+01 6.950e+01 3.449e+02 1.082e-01 1.289e-01 8.448e-02
 2.867e-02 1.668e-01 6.862e-02 3.198e-01 1.489e+00 2.230e+00 2.074e+01
 8.902e-03 4.785e-02 7.339e-02 1.745e-02 2.728e-02 7.610e-03 1.169e+01
 2.521e+01 7.651e+01 4.104e+02 1.335e-01 2.550e-01 2.534e-01 8.600e-02
 2.605e-01 8.701e-02], Class Predicted = 1
 X142 = [1.097e+01 1.720e+01 7.173e+01 3.715e+02 8.915e-02 1.113e-01 9.457e-02
 3.613e-02 1.489e-01 6.640e-02 2.574e-01 1.376e+00 2.806e+00 1.815e+01
 8.565e-03 4.638e-02 6.430e-02 1.768e-02 1.516e-02 4.976e-03 1.236e+01
 2.687e+01 9.014e+01 4.764e+02 1.391e-01 4.082e-01 4.779e-01 1.555e-01
 2.540e-01 9.532e-02], Class Predicted = 1
 X143 = [1.381e+01 2.375e+01 9.156e+01 5.978e+02 1.323e-01 1.768e-01 1.558e-01
 9.176e-02 2.251e-01 7.421e-02 5.648e-01 1.930e+00 3.909e+00 5.272e+01
 8.824e-03 3.108e-02 3.112e-02 1.291e-02 1.998e-02 4.506e-03 1.920e+01
 4.185e+01 1.285e+02 1.153e+03 2.226e-01 5.209e-01 4.646e-01 2.013e-01
 4.432e-01 1.086e-01], Class Predicted = 0
 X144 = [1.289e+01 1.312e+01 8.189e+01 5.159e+02 6.955e-02 3.729e-02 2.260e-02
 1.171e-02 1.337e-01 5.581e-02 1.532e-01 4.690e-01 1.115e+00 1.268e+01
 4.731e-03 1.345e-02 1.652e-02 5.905e-03 1.619e-02 2.081e-03 1.362e+01
 1.554e+01 8.740e+01 5.770e+02 9.616e-02 1.147e-01 1.186e-01 5.366e-02
 2.309e-01 6.915e-02], Class Predicted = 1
 X145 = [1.174e+01 1.402e+01 7.424e+01 4.273e+02 7.813e-02 4.340e-02 2.245e-02
 2.763e-02 2.101e-01 6.113e-02 5.619e-01 1.268e+00 3.717e+00 3.783e+01
 8.034e-03 1.442e-02 1.514e-02 1.846e-02 2.921e-02 2.005e-03 1.331e+01
 1.826e+01 8.470e+01 5.337e+02 1.036e-01 8.500e-02 6.735e-02 8.290e-02
 3.101e-01 6.688e-02], Class Predicted = 1
 X146 = [1.404e+01 1.598e+01 8.978e+01 6.112e+02 8.458e-02 5.895e-02 3.534e-02
 2.944e-02 1.714e-01 5.898e-02 3.892e-01 1.046e+00 2.644e+00 3.274e+01
 7.976e-03 1.295e-02 1.608e-02 9.046e-03 2.005e-02 2.830e-03 1.566e+01
 2.158e+01 1.012e+02 7.500e+02 1.195e-01 1.252e-01 1.117e-01 7.453e-02
 2.725e-01 7.234e-02], Class Predicted = 1

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X147 = [1.236e+01 2.180e+01 7.978e+01 4.661e+02 8.772e-02 9.445e-02 6.015e-02
3.745e-02 1.930e-01 6.404e-02 2.978e-01 1.502e+00 2.203e+00 2.095e+01
7.112e-03 2.493e-02 2.703e-02 1.293e-02 1.958e-02 4.463e-03 1.383e+01
3.050e+01 9.146e+01 5.747e+02 1.304e-01 2.463e-01 2.434e-01 1.205e-01
2.972e-01 9.261e-02], Class Predicted = 1
X148 = [9.742e+00 1.912e+01 6.193e+01 2.897e+02 1.075e-01 8.333e-02 8.934e-03
1.967e-02 2.538e-01 7.029e-02 6.965e-01 1.747e+00 4.607e+00 4.352e+01
1.307e-02 1.885e-02 6.021e-03 1.052e-02 3.100e-02 4.225e-03 1.121e+01
2.317e+01 7.179e+01 3.809e+02 1.398e-01 1.352e-01 2.085e-02 4.589e-02
3.196e-01 8.009e-02], Class Predicted = 1
X149 = [1.866e+01 1.712e+01 1.214e+02 1.077e+03 1.054e-01 1.100e-01 1.457e-01
8.665e-02 1.966e-01 6.213e-02 7.128e-01 1.581e+00 4.895e+00 9.047e+01
8.102e-03 2.101e-02 3.342e-02 1.601e-02 2.045e-02 4.570e-03 2.225e+01
2.490e+01 1.454e+02 1.549e+03 1.503e-01 2.291e-01 3.272e-01 1.674e-01
2.894e-01 8.456e-02], Class Predicted = 0
X150 = [1.388e+01 1.616e+01 8.837e+01 5.966e+02 7.026e-02 4.831e-02 2.045e-02
8.507e-03 1.607e-01 5.474e-02 2.541e-01 6.218e-01 1.709e+00 2.312e+01
3.728e-03 1.415e-02 1.988e-02 7.016e-03 1.647e-02 1.970e-03 1.551e+01
1.997e+01 9.966e+01 7.453e+02 8.484e-02 1.233e-01 1.091e-01 4.537e-02
2.542e-01 6.623e-02], Class Predicted = 1
X151 = [1.132e+01 2.708e+01 7.176e+01 3.957e+02 6.883e-02 3.813e-02 1.633e-02
3.125e-03 1.869e-01 5.628e-02 1.210e-01 8.927e-01 1.059e+00 8.605e+00
3.653e-03 1.647e-02 1.633e-02 3.125e-03 1.537e-02 2.052e-03 1.208e+01
3.375e+01 7.982e+01 4.523e+02 9.203e-02 1.432e-01 1.089e-01 2.083e-02
2.849e-01 7.087e-02], Class Predicted = 1
X152 = [1.546e+01 2.395e+01 1.038e+02 7.313e+02 1.183e-01 1.870e-01 2.030e-01
8.520e-02 1.807e-01 7.083e-02 3.331e-01 1.961e+00 2.937e+00 3.252e+01
9.538e-03 4.940e-02 6.019e-02 2.041e-02 2.105e-02 6.000e-03 1.711e+01
3.633e+01 1.177e+02 9.094e+02 1.732e-01 4.967e-01 5.911e-01 2.163e-01
3.013e-01 1.067e-01], Class Predicted = 0
X153 = [1.532e+01 1.727e+01 1.032e+02 7.133e+02 1.335e-01 2.284e-01 2.448e-01
1.242e-01 2.398e-01 7.596e-02 6.592e-01 1.059e+00 4.061e+00 5.946e+01
1.015e-02 4.588e-02 4.983e-02 2.127e-02 1.884e-02 8.660e-03 1.773e+01
2.266e+01 1.198e+02 9.288e+02 1.765e-01 4.503e-01 4.429e-01 2.229e-01
3.258e-01 1.191e-01], Class Predicted = 0
X154 = [1.910e+01 2.629e+01 1.291e+02 1.132e+03 1.215e-01 1.791e-01 1.937e-01
1.469e-01 1.634e-01 7.224e-02 5.190e-01 2.910e+00 5.801e+00 6.710e+01
7.545e-03 6.050e-02 2.134e-02 1.843e-02 3.056e-02 1.039e-02 2.033e+01
3.272e+01 1.413e+02 1.298e+03 1.392e-01 2.817e-01 2.432e-01 1.841e-01
2.311e-01 9.203e-02], Class Predicted = 0
X155 = [1.120e+01 2.937e+01 7.067e+01 3.860e+02 7.449e-02 3.558e-02 0.000e+00
0.000e+00 1.060e-01 5.502e-02 3.141e-01 3.896e+00 2.041e+00 2.281e+01
7.594e-03 8.878e-03 0.000e+00 0.000e+00 1.989e-02 1.773e-03 1.192e+01
3.830e+01 7.519e+01 4.396e+02 9.267e-02 5.494e-02 0.000e+00 0.000e+00
1.566e-01 5.905e-02], Class Predicted = 1
X156 = [1.831e+01 1.858e+01 1.186e+02 1.041e+03 8.588e-02 8.468e-02 8.169e-02
5.814e-02 1.621e-01 5.425e-02 2.577e-01 4.757e-01 1.817e+00 2.892e+01
2.866e-03 9.181e-03 1.412e-02 6.719e-03 1.069e-02 1.087e-03 2.131e+01
2.636e+01 1.392e+02 1.410e+03 1.234e-01 2.445e-01 3.538e-01 1.571e-01
3.206e-01 6.938e-02], Class Predicted = 0
X157 = [1.280e+01 1.746e+01 8.305e+01 5.083e+02 8.044e-02 8.895e-02 7.390e-02
4.083e-02 1.574e-01 5.750e-02 3.639e-01 1.265e+00 2.668e+00 3.057e+01
5.421e-03 3.477e-02 4.545e-02 1.384e-02 1.869e-02 4.067e-03 1.374e+01
2.106e+01 9.072e+01 5.910e+02 9.534e-02 1.812e-01 1.901e-01 8.296e-02
1.988e-01 7.053e-02], Class Predicted = 1
X158 = [8.196e+00 1.684e+01 5.171e+01 2.019e+02 8.600e-02 5.943e-02 1.588e-02
5.917e-03 1.769e-01 6.503e-02 1.563e-01 9.567e-01 1.094e+00 8.205e+00
8.968e-03 1.646e-02 1.588e-02 5.917e-03 2.574e-02 2.582e-03 8.964e+00
2.196e+01 5.726e+01 2.422e+02 1.297e-01 1.357e-01 6.880e-02 2.564e-02
3.105e-01 7.409e-02], Class Predicted = 1
X159 = [1.706e+01 2.100e+01 1.118e+02 9.186e+02 1.119e-01 1.056e-01 1.508e-01
9.934e-02 1.727e-01 6.071e-02 8.161e-01 2.129e+00 6.076e+00 8.717e+01
6.455e-03 1.797e-02 4.502e-02 1.744e-02 1.829e-02 3.733e-03 2.099e+01
3.315e+01 1.432e+02 1.362e+03 1.449e-01 2.053e-01 3.920e-01 1.827e-01
2.623e-01 7.599e-02], Class Predicted = 0
X160 = [1.327e+01 1.702e+01 8.455e+01 5.464e+02 8.445e-02 4.994e-02 3.554e-02
2.456e-02 1.496e-01 5.674e-02 2.927e-01 8.907e-01 2.044e+00 2.468e+01
6.032e-03 1.104e-02 2.259e-02 9.057e-03 1.482e-02 2.496e-03 1.514e+01
2.360e+01 9.884e+01 7.088e+02 1.276e-01 1.311e-01 1.786e-01 9.678e-02

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2.506e-01 7.623e-02], Class Predicted = 1
 X161 = [1.090e+01 1.296e+01 6.869e+01 3.668e+02 7.515e-02 3.718e-02 3.090e-03
 6.588e-03 1.442e-01 5.743e-02 2.818e-01 7.614e-01 1.808e+00 1.854e+01
 6.142e-03 6.134e-03 1.835e-03 3.576e-03 1.637e-02 2.665e-03 1.236e+01
 1.820e+01 7.807e+01 4.700e+02 1.171e-01 8.294e-02 1.854e-02 3.953e-02
 2.738e-01 7.685e-02], Class Predicted = 1
 X162 = [1.294e+01 1.617e+01 8.318e+01 5.076e+02 9.879e-02 8.836e-02 3.296e-02
 2.390e-02 1.735e-01 6.200e-02 1.458e-01 9.050e-01 9.975e-01 1.136e+01
 2.887e-03 1.285e-02 1.613e-02 7.308e-03 1.870e-02 1.972e-03 1.386e+01
 2.302e+01 8.969e+01 5.809e+02 1.172e-01 1.958e-01 1.810e-01 8.388e-02
 3.297e-01 7.834e-02], Class Predicted = 1
 X163 = [1.082e+01 2.421e+01 6.889e+01 3.616e+02 8.192e-02 6.602e-02 1.548e-02
 8.160e-03 1.976e-01 6.328e-02 5.196e-01 1.918e+00 3.564e+00 3.300e+01
 8.263e-03 1.870e-02 1.277e-02 5.917e-03 2.466e-02 2.977e-03 1.303e+01
 3.145e+01 8.390e+01 5.056e+02 1.204e-01 1.633e-01 6.194e-02 3.264e-02
 3.059e-01 7.626e-02], Class Predicted = 1
 X164 = [1.495e+01 1.757e+01 9.685e+01 6.781e+02 1.167e-01 1.305e-01 1.539e-01
 8.624e-02 1.957e-01 6.216e-02 1.296e+00 1.452e+00 8.419e+00 1.019e+02
 1.000e-02 3.480e-02 6.577e-02 2.801e-02 5.168e-02 2.887e-03 1.855e+01
 2.143e+01 1.214e+02 9.714e+02 1.411e-01 2.164e-01 3.355e-01 1.667e-01
 3.414e-01 7.147e-02], Class Predicted = 0
 X165 = [1.106e+01 1.496e+01 7.149e+01 3.739e+02 1.033e-01 9.097e-02 5.397e-02
 3.341e-02 1.776e-01 6.907e-02 1.601e-01 8.225e-01 1.355e+00 1.080e+01
 7.416e-03 1.877e-02 2.758e-02 1.010e-02 2.348e-02 2.917e-03 1.192e+01
 1.990e+01 7.976e+01 4.400e+02 1.418e-01 2.210e-01 2.299e-01 1.075e-01
 3.301e-01 9.080e-02], Class Predicted = 1
 X166 = [1.959e+01 2.500e+01 1.277e+02 1.191e+03 1.032e-01 9.871e-02 1.655e-01
 9.063e-02 1.663e-01 5.391e-02 4.674e-01 1.375e+00 2.916e+00 5.618e+01
 1.190e-02 1.929e-02 4.907e-02 1.499e-02 1.641e-02 1.807e-03 2.144e+01
 3.096e+01 1.398e+02 1.421e+03 1.528e-01 1.845e-01 3.977e-01 1.466e-01
 2.293e-01 6.091e-02], Class Predicted = 0
 X167 = [1.881e+01 1.998e+01 1.209e+02 1.102e+03 8.923e-02 5.884e-02 8.020e-02
 5.843e-02 1.550e-01 4.996e-02 3.283e-01 8.280e-01 2.363e+00 3.674e+01
 7.571e-03 1.114e-02 2.623e-02 1.463e-02 1.930e-02 1.676e-03 1.996e+01
 2.430e+01 1.290e+02 1.236e+03 1.243e-01 1.160e-01 2.210e-01 1.294e-01
 2.567e-01 5.737e-02], Class Predicted = 0
 X168 = [1.195e+01 1.496e+01 7.723e+01 4.267e+02 1.158e-01 1.206e-01 1.171e-02
 1.787e-02 2.459e-01 6.581e-02 3.610e-01 1.050e+00 2.455e+00 2.665e+01
 5.800e-03 2.417e-02 7.816e-03 1.052e-02 2.734e-02 3.114e-03 1.281e+01
 1.772e+01 8.309e+01 4.962e+02 1.293e-01 1.885e-01 3.122e-02 4.766e-02
 3.124e-01 7.590e-02], Class Predicted = 1
 X169 = [2.026e+01 2.303e+01 1.324e+02 1.264e+03 9.078e-02 1.313e-01 1.465e-01
 8.683e-02 2.095e-01 5.649e-02 7.576e-01 1.509e+00 4.554e+00 8.787e+01
 6.016e-03 3.482e-02 4.232e-02 1.269e-02 2.657e-02 4.411e-03 2.422e+01
 3.159e+01 1.561e+02 1.750e+03 1.190e-01 3.539e-01 4.098e-01 1.573e-01
 3.689e-01 8.368e-02], Class Predicted = 0
 X170 = [1.176e+01 1.814e+01 7.500e+01 4.311e+02 9.968e-02 5.914e-02 2.685e-02
 3.515e-02 1.619e-01 6.287e-02 6.450e-01 2.105e+00 4.138e+00 4.911e+01
 5.596e-03 1.005e-02 1.272e-02 1.432e-02 1.575e-02 2.758e-03 1.336e+01
 2.339e+01 8.510e+01 5.536e+02 1.137e-01 7.974e-02 6.120e-02 7.160e-02
 1.978e-01 6.915e-02], Class Predicted = 1
 X171 = [1.300e+01 2.513e+01 8.261e+01 5.202e+02 8.369e-02 5.073e-02 1.206e-02
 1.762e-02 1.667e-01 5.449e-02 2.621e-01 1.232e+00 1.657e+00 2.119e+01
 6.054e-03 8.974e-03 5.681e-03 6.336e-03 1.215e-02 1.514e-03 1.434e+01
 3.188e+01 9.106e+01 6.285e+02 1.218e-01 1.093e-01 4.462e-02 5.921e-02
 2.306e-01 6.291e-02], Class Predicted = 1
 X172 = [1.032e+01 1.635e+01 6.531e+01 3.249e+02 9.434e-02 4.994e-02 1.012e-02
 5.495e-03 1.885e-01 6.201e-02 2.104e-01 9.670e-01 1.356e+00 1.297e+01
 7.086e-03 7.247e-03 1.012e-02 5.495e-03 1.560e-02 2.606e-03 1.125e+01
 2.177e+01 7.112e+01 3.849e+02 1.285e-01 8.842e-02 4.384e-02 2.381e-02
 2.681e-01 7.399e-02], Class Predicted = 1
 X173 = [1.793e+01 2.448e+01 1.152e+02 9.989e+02 8.855e-02 7.027e-02 5.699e-02
 4.744e-02 1.538e-01 5.510e-02 4.212e-01 1.433e+00 2.765e+00 4.581e+01
 5.444e-03 1.169e-02 1.622e-02 8.522e-03 1.419e-02 2.751e-03 2.092e+01
 3.469e+01 1.351e+02 1.320e+03 1.315e-01 1.806e-01 2.080e-01 1.136e-01
 2.504e-01 7.948e-02], Class Predicted = 0
 X174 = [1.171e+01 1.545e+01 7.503e+01 4.203e+02 1.150e-01 7.281e-02 4.006e-02
 3.250e-02 2.009e-01 6.506e-02 3.446e-01 7.395e-01 2.355e+00 2.453e+01
 9.536e-03 1.097e-02 1.651e-02 1.121e-02 1.953e-02 3.100e-03 1.306e+01

1.816e+01 8.416e+01 5.164e+02 1.460e-01 1.115e-01 1.087e-01 7.864e-02
 2.765e-01 7.806e-02], Class Predicted = 1
 X175 = [1.447e+01 2.499e+01 9.581e+01 6.564e+02 8.837e-02 1.230e-01 1.009e-01
 3.890e-02 1.872e-01 6.341e-02 2.542e-01 1.079e+00 2.615e+00 2.311e+01
 7.138e-03 4.653e-02 3.829e-02 1.162e-02 2.068e-02 6.111e-03 1.622e+01
 3.173e+01 1.135e+02 8.089e+02 1.340e-01 4.202e-01 4.040e-01 1.205e-01
 3.187e-01 1.023e-01], Class Predicted = 0
 X176 = [1.162e+01 1.818e+01 7.638e+01 4.088e+02 1.175e-01 1.483e-01 1.020e-01
 5.564e-02 1.957e-01 7.255e-02 4.101e-01 1.740e+00 3.027e+00 2.785e+01
 1.459e-02 3.206e-02 4.961e-02 1.841e-02 1.807e-02 5.217e-03 1.336e+01
 2.540e+01 8.814e+01 5.281e+02 1.780e-01 2.878e-01 3.186e-01 1.416e-01
 2.660e-01 9.270e-02], Class Predicted = 1
 X177 = [1.283e+01 1.573e+01 8.289e+01 5.069e+02 9.040e-02 8.269e-02 5.835e-02
 3.078e-02 1.705e-01 5.913e-02 1.499e-01 4.875e-01 1.195e+00 1.164e+01
 4.873e-03 1.796e-02 3.318e-02 8.360e-03 1.601e-02 2.289e-03 1.409e+01
 1.935e+01 9.322e+01 6.058e+02 1.326e-01 2.610e-01 3.476e-01 9.783e-02
 3.006e-01 7.802e-02], Class Predicted = 1
 X178 = [2.094e+01 2.356e+01 1.389e+02 1.364e+03 1.007e-01 1.606e-01 2.712e-01
 1.310e-01 2.205e-01 5.898e-02 1.004e+00 8.208e-01 6.372e+00 1.379e+02
 5.283e-03 3.908e-02 9.518e-02 1.864e-02 2.401e-02 5.002e-03 2.558e+01
 2.700e+01 1.653e+02 2.010e+03 1.211e-01 3.172e-01 6.991e-01 2.105e-01
 3.126e-01 7.849e-02], Class Predicted = 0
 X179 = [1.369e+01 1.607e+01 8.784e+01 5.791e+02 8.302e-02 6.374e-02 2.556e-02
 2.031e-02 1.872e-01 5.669e-02 1.705e-01 5.066e-01 1.372e+00 1.400e+01
 4.230e-03 1.587e-02 1.169e-02 6.335e-03 1.943e-02 2.177e-03 1.484e+01
 2.021e+01 9.916e+01 6.706e+02 1.105e-01 2.096e-01 1.346e-01 6.987e-02
 3.323e-01 7.701e-02], Class Predicted = 1
 X180 = [1.193e+01 2.153e+01 7.653e+01 4.386e+02 9.768e-02 7.849e-02 3.328e-02
 2.008e-02 1.688e-01 6.194e-02 3.118e-01 9.227e-01 2.000e+00 2.479e+01
 7.803e-03 2.507e-02 1.835e-02 7.711e-03 1.278e-02 3.856e-03 1.367e+01
 2.615e+01 8.754e+01 5.830e+02 1.500e-01 2.399e-01 1.503e-01 7.247e-02
 2.438e-01 8.541e-02], Class Predicted = 1
 X181 = [1.126e+01 1.996e+01 7.372e+01 3.941e+02 8.020e-02 1.181e-01 9.274e-02
 5.588e-02 2.595e-01 6.233e-02 4.866e-01 1.905e+00 2.877e+00 3.468e+01
 1.574e-02 8.262e-02 8.099e-02 3.487e-02 3.418e-02 6.517e-03 1.186e+01
 2.233e+01 7.827e+01 4.376e+02 1.028e-01 1.843e-01 1.546e-01 9.314e-02
 2.955e-01 7.009e-02], Class Predicted = 1
 X182 = [1.344e+01 2.158e+01 8.618e+01 5.630e+02 8.162e-02 6.031e-02 3.110e-02
 2.031e-02 1.784e-01 5.587e-02 2.385e-01 8.265e-01 1.572e+00 2.053e+01
 3.280e-03 1.102e-02 1.390e-02 6.881e-03 1.380e-02 1.286e-03 1.593e+01
 3.025e+01 1.025e+02 7.879e+02 1.094e-01 2.043e-01 2.085e-01 1.112e-01
 2.994e-01 7.146e-02], Class Predicted = 1
 X183 = [1.095e+01 2.135e+01 7.190e+01 3.711e+02 1.227e-01 1.218e-01 1.044e-01
 5.669e-02 1.895e-01 6.870e-02 2.366e-01 1.428e+00 1.822e+00 1.697e+01
 8.064e-03 1.764e-02 2.595e-02 1.037e-02 1.357e-02 3.040e-03 1.284e+01
 3.534e+01 8.722e+01 5.140e+02 1.909e-01 2.698e-01 4.023e-01 1.424e-01
 2.964e-01 9.606e-02], Class Predicted = 1
 X184 = [1.262e+01 2.397e+01 8.135e+01 4.964e+02 7.903e-02 7.529e-02 5.438e-02
 2.036e-02 1.514e-01 6.019e-02 2.449e-01 1.066e+00 1.445e+00 1.851e+01
 5.169e-03 2.294e-02 3.016e-02 8.691e-03 1.365e-02 3.407e-03 1.420e+01
 3.131e+01 9.067e+01 6.240e+02 1.227e-01 3.454e-01 3.911e-01 1.180e-01
 2.826e-01 9.585e-02], Class Predicted = 1
 X185 = [1.180e+01 1.726e+01 7.526e+01 4.319e+02 9.087e-02 6.232e-02 2.853e-02
 1.638e-02 1.847e-01 6.019e-02 3.438e-01 1.140e+00 2.225e+00 2.506e+01
 5.463e-03 1.964e-02 2.079e-02 5.398e-03 1.477e-02 3.071e-03 1.345e+01
 2.449e+01 8.600e+01 5.620e+02 1.244e-01 1.726e-01 1.449e-01 5.356e-02
 2.779e-01 8.121e-02], Class Predicted = 1
 X186 = [1.142e+01 2.038e+01 7.758e+01 3.861e+02 1.425e-01 2.839e-01 2.414e-01
 1.052e-01 2.597e-01 9.744e-02 4.956e-01 1.156e+00 3.445e+00 2.723e+01
 9.110e-03 7.458e-02 5.661e-02 1.867e-02 5.963e-02 9.208e-03 1.491e+01
 2.650e+01 9.887e+01 5.677e+02 2.098e-01 8.663e-01 6.869e-01 2.575e-01
 6.638e-01 1.730e-01], Class Predicted = 0
 X187 = [1.396e+01 1.705e+01 9.143e+01 6.024e+02 1.096e-01 1.279e-01 9.789e-02
 5.246e-02 1.908e-01 6.130e-02 4.250e-01 8.098e-01 2.563e+00 3.574e+01
 6.351e-03 2.679e-02 3.119e-02 1.342e-02 2.062e-02 2.695e-03 1.639e+01
 2.207e+01 1.081e+02 8.260e+02 1.512e-01 3.262e-01 3.209e-01 1.374e-01
 3.068e-01 7.957e-02], Class Predicted = 1
 X188 = [2.058e+01 2.214e+01 1.347e+02 1.290e+03 9.090e-02 1.348e-01 1.640e-01
 9.561e-02 1.765e-01 5.024e-02 8.601e-01 1.480e+00 7.029e+00 1.117e+02

8.124e-03 3.611e-02 5.489e-02 2.765e-02 3.176e-02 2.365e-03 2.324e+01
 2.784e+01 1.583e+02 1.656e+03 1.178e-01 2.920e-01 3.861e-01 1.920e-01
 2.909e-01 5.865e-02], Class Predicted = 0
 X189 = [1.684e+01 1.946e+01 1.084e+02 8.802e+02 7.445e-02 7.223e-02 5.150e-02
 2.771e-02 1.844e-01 5.268e-02 4.789e-01 2.060e+00 3.479e+00 4.661e+01
 3.443e-03 2.661e-02 3.056e-02 1.110e-02 1.520e-02 1.519e-03 1.822e+01
 2.807e+01 1.203e+02 1.032e+03 8.774e-02 1.710e-01 1.882e-01 8.436e-02
 2.527e-01 5.972e-02], Class Predicted = 0
 X190 = [1.863e+01 2.511e+01 1.248e+02 1.088e+03 1.064e-01 1.887e-01 2.319e-01
 1.244e-01 2.183e-01 6.197e-02 8.307e-01 1.466e+00 5.574e+00 1.050e+02
 6.248e-03 3.374e-02 5.196e-02 1.158e-02 2.007e-02 4.560e-03 2.315e+01
 3.401e+01 1.605e+02 1.670e+03 1.491e-01 4.257e-01 6.133e-01 1.848e-01
 3.444e-01 9.782e-02], Class Predicted = 0
 X191 = [1.506e+01 1.983e+01 1.003e+02 7.056e+02 1.039e-01 1.553e-01 1.700e-01
 8.815e-02 1.855e-01 6.284e-02 4.768e-01 9.644e-01 3.706e+00 4.714e+01
 9.250e-03 3.715e-02 4.867e-02 1.851e-02 1.498e-02 3.520e-03 1.823e+01
 2.423e+01 1.235e+02 1.025e+03 1.551e-01 4.203e-01 5.203e-01 2.115e-01
 2.834e-01 8.234e-02], Class Predicted = 0
 X192 = [1.221e+01 1.409e+01 7.878e+01 4.620e+02 8.108e-02 7.823e-02 6.839e-02
 2.534e-02 1.646e-01 6.154e-02 2.666e-01 8.309e-01 2.097e+00 1.996e+01
 4.405e-03 3.026e-02 4.344e-02 1.087e-02 1.921e-02 4.622e-03 1.313e+01
 1.929e+01 8.765e+01 5.299e+02 1.026e-01 2.431e-01 3.076e-01 9.140e-02
 2.677e-01 8.824e-02], Class Predicted = 1
 X193 = [9.333e+00 2.194e+01 5.901e+01 2.640e+02 9.240e-02 5.605e-02 3.996e-02
 1.282e-02 1.692e-01 6.576e-02 3.013e-01 1.879e+00 2.121e+00 1.786e+01
 1.094e-02 1.834e-02 3.996e-02 1.282e-02 3.759e-02 4.623e-03 9.845e+00
 2.505e+01 6.286e+01 2.958e+02 1.103e-01 8.298e-02 7.993e-02 2.564e-02
 2.435e-01 7.393e-02], Class Predicted = 1
 X194 = [1.146e+01 1.816e+01 7.359e+01 4.031e+02 8.853e-02 7.694e-02 3.344e-02
 1.502e-02 1.411e-01 6.243e-02 3.278e-01 1.059e+00 2.475e+00 2.293e+01
 6.652e-03 2.652e-02 2.221e-02 7.807e-03 1.894e-02 3.411e-03 1.268e+01
 2.161e+01 8.269e+01 4.898e+02 1.144e-01 1.789e-01 1.226e-01 5.509e-02
 2.208e-01 7.638e-02], Class Predicted = 1
 X195 = [1.499e+01 2.211e+01 9.753e+01 6.937e+02 8.515e-02 1.025e-01 6.859e-02
 3.876e-02 1.944e-01 5.913e-02 3.186e-01 1.336e+00 2.310e+00 2.851e+01
 4.449e-03 2.808e-02 3.312e-02 1.196e-02 1.906e-02 4.015e-03 1.676e+01
 3.155e+01 1.102e+02 8.671e+02 1.077e-01 3.345e-01 3.114e-01 1.308e-01
 3.163e-01 9.251e-02], Class Predicted = 0
 X196 = [1.508e+01 2.574e+01 9.800e+01 7.166e+02 1.024e-01 9.769e-02 1.235e-01
 6.553e-02 1.647e-01 6.464e-02 6.534e-01 1.506e+00 4.174e+00 6.337e+01
 1.052e-02 2.431e-02 4.912e-02 1.746e-02 2.120e-02 4.867e-03 1.851e+01
 3.322e+01 1.212e+02 1.050e+03 1.660e-01 2.356e-01 4.029e-01 1.526e-01
 2.654e-01 9.438e-02], Class Predicted = 0
 X197 = [1.461e+01 1.569e+01 9.268e+01 6.649e+02 7.618e-02 3.515e-02 1.447e-02
 1.877e-02 1.632e-01 5.255e-02 3.160e-01 9.115e-01 1.954e+00 2.890e+01
 5.031e-03 6.021e-03 5.325e-03 6.324e-03 1.494e-02 8.948e-04 1.646e+01
 2.175e+01 1.037e+02 8.408e+02 1.011e-01 7.087e-02 4.746e-02 5.813e-02
 2.530e-01 5.695e-02], Class Predicted = 1
 X198 = [1.808e+01 2.184e+01 1.174e+02 1.024e+03 7.371e-02 8.642e-02 1.103e-01
 5.778e-02 1.770e-01 5.340e-02 6.362e-01 1.305e+00 4.312e+00 7.636e+01
 5.530e-03 5.296e-02 6.110e-02 1.444e-02 2.140e-02 5.036e-03 1.976e+01
 2.470e+01 1.291e+02 1.228e+03 8.822e-02 1.963e-01 2.535e-01 9.181e-02
 2.369e-01 6.558e-02], Class Predicted = 0
 X199 = [1.534e+01 1.426e+01 1.025e+02 7.044e+02 1.073e-01 2.135e-01 2.077e-01
 9.756e-02 2.521e-01 7.032e-02 4.388e-01 7.096e-01 3.384e+00 4.491e+01
 6.789e-03 5.328e-02 6.446e-02 2.252e-02 3.672e-02 4.394e-03 1.807e+01
 1.908e+01 1.251e+02 9.809e+02 1.390e-01 5.954e-01 6.305e-01 2.393e-01
 4.667e-01 9.946e-02], Class Predicted = 0
 X200 = [1.403e+01 2.125e+01 8.979e+01 6.034e+02 9.070e-02 6.945e-02 1.462e-02
 1.896e-02 1.517e-01 5.835e-02 2.589e-01 1.503e+00 1.667e+00 2.207e+01
 7.389e-03 1.383e-02 7.302e-03 1.004e-02 1.263e-02 2.925e-03 1.533e+01
 3.028e+01 9.827e+01 7.155e+02 1.287e-01 1.513e-01 6.231e-02 7.963e-02
 2.226e-01 7.617e-02], Class Predicted = 1
 X201 = [1.803e+01 1.685e+01 1.175e+02 9.900e+02 8.947e-02 1.232e-01 1.090e-01
 6.254e-02 1.720e-01 5.780e-02 2.986e-01 5.906e-01 1.921e+00 3.577e+01
 4.117e-03 1.560e-02 2.975e-02 9.753e-03 1.295e-02 2.436e-03 2.038e+01
 2.202e+01 1.333e+02 1.292e+03 1.263e-01 2.666e-01 4.290e-01 1.535e-01
 2.842e-01 8.225e-02], Class Predicted = 0
 X202 = [1.495e+01 1.877e+01 9.784e+01 6.895e+02 8.138e-02 1.167e-01 9.050e-02

3.562e-02 1.744e-01 6.493e-02 4.220e-01 1.909e+00 3.271e+00 3.943e+01
 5.790e-03 4.877e-02 5.303e-02 1.527e-02 3.356e-02 9.368e-03 1.625e+01
 2.547e+01 1.071e+02 8.097e+02 9.970e-02 2.521e-01 2.500e-01 8.405e-02
 2.852e-01 9.218e-02], Class Predicted = 1
 X203 = [7.691e+00 2.544e+01 4.834e+01 1.704e+02 8.668e-02 1.199e-01 9.252e-02
 1.364e-02 2.037e-01 7.751e-02 2.196e-01 1.479e+00 1.445e+00 1.173e+01
 1.547e-02 6.457e-02 9.252e-02 1.364e-02 2.105e-02 7.551e-03 8.678e+00
 3.189e+01 5.449e+01 2.236e+02 1.596e-01 3.064e-01 3.393e-01 5.000e-02
 2.790e-01 1.066e-01], Class Predicted = 1
 X204 = [1.387e+01 1.621e+01 8.852e+01 5.937e+02 8.743e-02 5.492e-02 1.502e-02
 2.088e-02 1.424e-01 5.883e-02 2.543e-01 1.363e+00 1.737e+00 2.074e+01
 5.638e-03 7.939e-03 5.254e-03 6.042e-03 1.544e-02 2.087e-03 1.511e+01
 2.558e+01 9.674e+01 6.944e+02 1.153e-01 1.008e-01 5.285e-02 5.556e-02
 2.362e-01 7.113e-02], Class Predicted = 1
 X205 = [1.114e+01 1.407e+01 7.124e+01 3.846e+02 7.274e-02 6.064e-02 4.505e-02
 1.471e-02 1.690e-01 6.083e-02 4.222e-01 8.092e-01 3.330e+00 2.884e+01
 5.541e-03 3.387e-02 4.505e-02 1.471e-02 3.102e-02 4.831e-03 1.212e+01
 1.582e+01 7.962e+01 4.535e+02 8.864e-02 1.256e-01 1.201e-01 3.922e-02
 2.576e-01 7.018e-02], Class Predicted = 1
 X206 = [1.176e+01 2.160e+01 7.472e+01 4.279e+02 8.637e-02 4.966e-02 1.657e-02
 1.115e-02 1.495e-01 5.888e-02 4.062e-01 1.210e+00 2.635e+00 2.847e+01
 5.857e-03 9.758e-03 1.168e-02 7.445e-03 2.406e-02 1.769e-03 1.298e+01
 2.572e+01 8.298e+01 5.165e+02 1.085e-01 8.615e-02 5.523e-02 3.715e-02
 2.433e-01 6.563e-02], Class Predicted = 1
 X207 = [1.194e+01 1.824e+01 7.571e+01 4.376e+02 8.261e-02 4.751e-02 1.972e-02
 1.349e-02 1.868e-01 6.110e-02 2.273e-01 6.329e-01 1.520e+00 1.747e+01
 7.210e-03 8.380e-03 1.311e-02 8.000e-03 1.996e-02 2.635e-03 1.310e+01
 2.133e+01 8.367e+01 5.272e+02 1.144e-01 8.906e-02 9.203e-02 6.296e-02
 2.785e-01 7.408e-02], Class Predicted = 1
 X208 = [1.366e+01 1.515e+01 8.827e+01 5.806e+02 8.268e-02 7.548e-02 4.249e-02
 2.471e-02 1.792e-01 5.897e-02 1.402e-01 5.417e-01 1.101e+00 1.135e+01
 5.212e-03 2.984e-02 2.443e-02 8.356e-03 1.818e-02 4.868e-03 1.454e+01
 1.964e+01 9.796e+01 6.570e+02 1.275e-01 3.104e-01 2.569e-01 1.054e-01
 3.387e-01 9.638e-02], Class Predicted = 1
 X209 = [9.668e+00 1.810e+01 6.106e+01 2.863e+02 8.311e-02 5.428e-02 1.479e-02
 5.769e-03 1.680e-01 6.412e-02 3.416e-01 1.312e+00 2.275e+00 2.098e+01
 1.098e-02 1.257e-02 1.031e-02 3.934e-03 2.693e-02 2.979e-03 1.115e+01
 2.462e+01 7.111e+01 3.802e+02 1.388e-01 1.255e-01 6.409e-02 2.500e-02
 3.057e-01 7.875e-02], Class Predicted = 1
 X210 = [1.370e+01 1.764e+01 8.776e+01 5.711e+02 9.950e-02 7.957e-02 4.548e-02
 3.160e-02 1.732e-01 6.088e-02 2.431e-01 9.462e-01 1.564e+00 2.064e+01
 3.245e-03 8.186e-03 1.698e-02 9.233e-03 1.285e-02 1.524e-03 1.496e+01
 2.353e+01 9.578e+01 6.865e+02 1.199e-01 1.346e-01 1.742e-01 9.077e-02
 2.518e-01 6.960e-02], Class Predicted = 1
 X211 = [1.091e+01 1.235e+01 6.914e+01 3.637e+02 8.518e-02 4.721e-02 1.236e-02
 1.369e-02 1.449e-01 6.031e-02 1.753e-01 1.027e+00 1.267e+00 1.109e+01
 3.478e-03 1.221e-02 1.072e-02 9.393e-03 2.941e-02 3.428e-03 1.137e+01
 1.482e+01 7.242e+01 3.922e+02 9.312e-02 7.506e-02 2.884e-02 3.194e-02
 2.143e-01 6.643e-02], Class Predicted = 1
 X212 = [1.066e+01 1.515e+01 6.749e+01 3.496e+02 8.792e-02 4.302e-02 0.000e+00
 0.000e+00 1.928e-01 5.975e-02 3.309e-01 1.925e+00 2.155e+00 2.198e+01
 8.713e-03 1.017e-02 0.000e+00 0.000e+00 3.265e-02 1.002e-03 1.154e+01
 1.920e+01 7.320e+01 4.083e+02 1.076e-01 6.791e-02 0.000e+00 0.000e+00
 2.710e-01 6.164e-02], Class Predicted = 1
 X213 = [2.073e+01 3.112e+01 1.357e+02 1.419e+03 9.469e-02 1.143e-01 1.367e-01
 8.646e-02 1.769e-01 5.674e-02 1.172e+00 1.617e+00 7.749e+00 1.997e+02
 4.551e-03 1.478e-02 2.143e-02 9.280e-03 1.367e-02 2.299e-03 3.249e+01
 4.716e+01 2.140e+02 3.432e+03 1.401e-01 2.644e-01 3.442e-01 1.659e-01
 2.868e-01 8.218e-02], Class Predicted = 0
 X214 = [1.128e+01 1.339e+01 7.300e+01 3.848e+02 1.164e-01 1.136e-01 4.635e-02
 4.796e-02 1.771e-01 6.072e-02 3.384e-01 1.343e+00 1.851e+00 2.633e+01
 1.127e-02 3.498e-02 2.187e-02 1.965e-02 1.580e-02 3.442e-03 1.192e+01
 1.577e+01 7.653e+01 4.340e+02 1.367e-01 1.822e-01 8.669e-02 8.611e-02
 2.102e-01 6.784e-02], Class Predicted = 1
 X215 = [1.174e+01 1.469e+01 7.631e+01 4.260e+02 8.099e-02 9.661e-02 6.726e-02
 2.639e-02 1.499e-01 6.758e-02 1.924e-01 6.417e-01 1.345e+00 1.304e+01
 6.982e-03 3.916e-02 4.017e-02 1.528e-02 2.260e-02 6.822e-03 1.245e+01
 1.760e+01 8.125e+01 4.738e+02 1.073e-01 2.793e-01 2.690e-01 1.056e-01
 2.604e-01 9.879e-02], Class Predicted = 1

X216 = [1.359e+01 2.184e+01 8.716e+01 5.610e+02 7.956e-02 8.259e-02 4.072e-02
 2.142e-02 1.635e-01 5.859e-02 3.380e-01 1.916e+00 2.591e+00 2.676e+01
 5.436e-03 2.406e-02 3.099e-02 9.919e-03 2.030e-02 3.009e-03 1.480e+01
 3.004e+01 9.766e+01 6.615e+02 1.005e-01 1.730e-01 1.453e-01 6.189e-02
 2.446e-01 7.024e-02], Class Predicted = 1
 X217 = [1.426e+01 1.817e+01 9.122e+01 6.331e+02 6.576e-02 5.220e-02 2.475e-02
 1.374e-02 1.635e-01 5.586e-02 2.300e-01 6.690e-01 1.661e+00 2.056e+01
 3.169e-03 1.377e-02 1.079e-02 5.243e-03 1.103e-02 1.957e-03 1.622e+01
 2.526e+01 1.058e+02 8.197e+02 9.445e-02 2.167e-01 1.565e-01 7.530e-02
 2.636e-01 7.676e-02], Class Predicted = 1
 X218 = [1.220e+01 1.521e+01 7.801e+01 4.579e+02 8.673e-02 6.545e-02 1.994e-02
 1.692e-02 1.638e-01 6.129e-02 2.575e-01 8.073e-01 1.959e+00 1.901e+01
 5.403e-03 1.418e-02 1.051e-02 5.142e-03 1.333e-02 2.065e-03 1.375e+01
 2.138e+01 9.111e+01 5.831e+02 1.256e-01 1.928e-01 1.167e-01 5.556e-02
 2.661e-01 7.961e-02], Class Predicted = 1
 X219 = [1.203e+01 1.793e+01 7.609e+01 4.460e+02 7.683e-02 3.892e-02 1.546e-03
 5.592e-03 1.382e-01 6.070e-02 2.335e-01 9.097e-01 1.466e+00 1.697e+01
 4.729e-03 6.887e-03 1.184e-03 3.951e-03 1.466e-02 1.755e-03 1.307e+01
 2.225e+01 8.274e+01 5.234e+02 1.013e-01 7.390e-02 7.732e-03 2.796e-02
 2.171e-01 7.037e-02], Class Predicted = 1
 X220 = [1.189e+01 2.117e+01 7.639e+01 4.338e+02 9.773e-02 8.120e-02 2.555e-02
 2.179e-02 2.019e-01 6.290e-02 2.747e-01 1.203e+00 1.930e+00 1.953e+01
 9.895e-03 3.053e-02 1.630e-02 9.276e-03 2.258e-02 2.272e-03 1.305e+01
 2.721e+01 8.509e+01 5.229e+02 1.426e-01 2.187e-01 1.164e-01 8.263e-02
 3.075e-01 7.351e-02], Class Predicted = 1
 X221 = [1.311e+01 1.556e+01 8.721e+01 5.302e+02 1.398e-01 1.765e-01 2.071e-01
 9.601e-02 1.925e-01 7.692e-02 3.908e-01 9.238e-01 2.410e+00 3.466e+01
 7.162e-03 2.912e-02 5.473e-02 1.388e-02 1.547e-02 7.098e-03 1.631e+01
 2.240e+01 1.064e+02 8.272e+02 1.862e-01 4.099e-01 6.376e-01 1.986e-01
 3.147e-01 1.405e-01], Class Predicted = 0
 X222 = [1.468e+01 2.013e+01 9.474e+01 6.845e+02 9.867e-02 7.200e-02 7.395e-02
 5.259e-02 1.586e-01 5.922e-02 4.727e-01 1.240e+00 3.195e+00 4.540e+01
 5.718e-03 1.162e-02 1.998e-02 1.109e-02 1.410e-02 2.085e-03 1.907e+01
 3.088e+01 1.234e+02 1.138e+03 1.464e-01 1.871e-01 2.914e-01 1.609e-01
 3.029e-01 8.216e-02], Class Predicted = 0
 X223 = [1.2400e+01 1.768e+01 8.147e+01 4.678e+02 1.054e-01 1.316e-01 7.741e-02
 2.799e-02 1.811e-01 7.102e-02 1.767e-01 1.460e+00 2.204e+00 1.543e+01
 1.000e-02 3.295e-02 4.861e-02 1.167e-02 2.187e-02 6.005e-03 1.288e+01
 2.291e+01 8.961e+01 5.158e+02 1.450e-01 2.629e-01 2.403e-01 7.370e-02
 2.556e-01 9.359e-02], Class Predicted = 1
 X224 = [1.145e+01 2.097e+01 7.381e+01 4.015e+02 1.102e-01 9.362e-02 4.591e-02
 2.233e-02 1.842e-01 7.005e-02 3.251e-01 2.174e+00 2.077e+00 2.462e+01
 1.037e-02 1.706e-02 2.586e-02 7.506e-03 1.816e-02 3.976e-03 1.311e+01
 3.216e+01 8.453e+01 5.251e+02 1.557e-01 1.676e-01 1.755e-01 6.127e-02
 2.762e-01 8.851e-02], Class Predicted = 1
 X225 = [1.729e+01 2.213e+01 1.144e+02 9.478e+02 8.999e-02 1.273e-01 9.697e-02
 7.507e-02 2.108e-01 5.464e-02 8.348e-01 1.633e+00 6.146e+00 9.094e+01
 6.717e-03 5.981e-02 4.638e-02 2.149e-02 2.747e-02 5.838e-03 2.039e+01
 2.724e+01 1.379e+02 1.295e+03 1.134e-01 2.867e-01 2.298e-01 1.528e-01
 3.067e-01 7.484e-02], Class Predicted = 0
 X226 = [1.330e+01 2.157e+01 8.524e+01 5.461e+02 8.582e-02 6.373e-02 3.344e-02
 2.424e-02 1.815e-01 5.696e-02 2.621e-01 1.539e+00 2.028e+00 2.098e+01
 5.498e-03 2.045e-02 1.795e-02 6.399e-03 1.829e-02 1.956e-03 1.420e+01
 2.920e+01 9.294e+01 6.212e+02 1.140e-01 1.667e-01 1.212e-01 5.614e-02
 2.637e-01 6.658e-02], Class Predicted = 1
 X227 = [1.263e+01 2.076e+01 8.215e+01 4.804e+02 9.933e-02 1.209e-01 1.065e-01
 6.021e-02 1.735e-01 7.070e-02 3.424e-01 1.803e+00 2.711e+00 2.048e+01
 1.291e-02 4.042e-02 5.101e-02 2.295e-02 2.144e-02 5.891e-03 1.333e+01
 2.547e+01 8.900e+01 5.274e+02 1.287e-01 2.250e-01 2.216e-01 1.105e-01
 2.226e-01 8.486e-02], Class Predicted = 1
 X228 = [1.492e+01 1.493e+01 9.645e+01 6.869e+02 8.098e-02 8.549e-02 5.539e-02
 3.221e-02 1.687e-01 5.669e-02 2.446e-01 4.334e-01 1.826e+00 2.331e+01
 3.271e-03 1.770e-02 2.310e-02 8.399e-03 1.148e-02 2.379e-03 1.718e+01
 1.822e+01 1.120e+02 9.066e+02 1.065e-01 2.791e-01 3.151e-01 1.147e-01
 2.688e-01 8.273e-02], Class Predicted = 1
 X229 = [2.742e+01 2.627e+01 1.869e+02 2.501e+03 1.084e-01 1.988e-01 3.635e-01
 1.689e-01 2.061e-01 5.623e-02 2.547e+00 1.306e+00 1.865e+01 5.422e+02
 7.650e-03 5.374e-02 8.055e-02 2.598e-02 1.697e-02 4.558e-03 3.604e+01
 3.137e+01 2.512e+02 4.254e+03 1.357e-01 4.256e-01 6.833e-01 2.625e-01

2.641e-01 7.427e-02], Class Predicted = 0
 X230 = [1.390e+01 1.662e+01 8.897e+01 5.994e+02 6.828e-02 5.319e-02 2.224e-02
 1.339e-02 1.813e-01 5.536e-02 1.555e-01 5.762e-01 1.392e+00 1.403e+01
 3.308e-03 1.315e-02 9.904e-03 4.832e-03 1.316e-02 2.095e-03 1.514e+01
 2.180e+01 1.012e+02 7.189e+02 9.384e-02 2.006e-01 1.384e-01 6.222e-02
 2.679e-01 7.698e-02], Class Predicted = 1
 X231 = [1.575e+01 2.025e+01 1.026e+02 7.613e+02 1.025e-01 1.204e-01 1.147e-01
 6.462e-02 1.935e-01 6.303e-02 3.473e-01 9.209e-01 2.244e+00 3.219e+01
 4.766e-03 2.374e-02 2.384e-02 8.637e-03 1.772e-02 3.131e-03 1.956e+01
 3.029e+01 1.259e+02 1.088e+03 1.552e-01 4.480e-01 3.976e-01 1.479e-01
 3.993e-01 1.064e-01], Class Predicted = 0
 X232 = [1.017e+01 1.488e+01 6.455e+01 3.119e+02 1.134e-01 8.061e-02 1.084e-02
 1.290e-02 2.743e-01 6.960e-02 5.158e-01 1.441e+00 3.312e+00 3.462e+01
 7.514e-03 1.099e-02 7.665e-03 8.193e-03 4.183e-02 5.953e-03 1.102e+01
 1.745e+01 6.986e+01 3.686e+02 1.275e-01 9.866e-02 2.168e-02 2.579e-02
 3.557e-01 8.020e-02], Class Predicted = 1
 X233 = [1.440e+01 2.699e+01 9.225e+01 6.461e+02 6.995e-02 5.223e-02 3.476e-02
 1.737e-02 1.707e-01 5.433e-02 2.315e-01 9.112e-01 1.727e+00 2.052e+01
 5.356e-03 1.679e-02 1.971e-02 6.370e-03 1.414e-02 1.892e-03 1.540e+01
 3.198e+01 1.004e+02 7.346e+02 1.017e-01 1.460e-01 1.472e-01 5.563e-02
 2.345e-01 6.464e-02], Class Predicted = 1
 X234 = [1.234e+01 2.222e+01 7.985e+01 4.645e+02 1.012e-01 1.015e-01 5.370e-02
 2.822e-02 1.551e-01 6.761e-02 2.949e-01 1.656e+00 1.955e+00 2.155e+01
 1.134e-02 3.175e-02 3.125e-02 1.135e-02 1.879e-02 5.348e-03 1.358e+01
 2.868e+01 8.736e+01 5.530e+02 1.452e-01 2.338e-01 1.688e-01 8.194e-02
 2.268e-01 9.082e-02], Class Predicted = 1
 X235 = [1.611e+01 1.805e+01 1.051e+02 8.130e+02 9.721e-02 1.137e-01 9.447e-02
 5.943e-02 1.861e-01 6.248e-02 7.049e-01 1.332e+00 4.533e+00 7.408e+01
 6.770e-03 1.938e-02 3.067e-02 1.167e-02 1.875e-02 3.434e-03 1.992e+01
 2.527e+01 1.290e+02 1.233e+03 1.314e-01 2.236e-01 2.802e-01 1.216e-01
 2.792e-01 8.158e-02], Class Predicted = 0
 X236 = [9.504e+00 1.244e+01 6.034e+01 2.739e+02 1.024e-01 6.492e-02 2.956e-02
 2.076e-02 1.815e-01 6.905e-02 2.773e-01 9.768e-01 1.909e+00 1.570e+01
 9.606e-03 1.432e-02 1.985e-02 1.421e-02 2.027e-02 2.968e-03 1.023e+01
 1.566e+01 6.513e+01 3.149e+02 1.324e-01 1.148e-01 8.867e-02 6.227e-02
 2.450e-01 7.773e-02], Class Predicted = 1
 X237 = [2.171e+01 1.725e+01 1.409e+02 1.546e+03 9.384e-02 8.562e-02 1.168e-01
 8.465e-02 1.717e-01 5.054e-02 1.207e+00 1.051e+00 7.733e+00 2.241e+02
 5.568e-03 1.112e-02 2.096e-02 1.197e-02 1.263e-02 1.803e-03 3.075e+01
 2.644e+01 1.995e+02 3.143e+03 1.363e-01 1.628e-01 2.861e-01 1.820e-01
 2.510e-01 6.494e-02], Class Predicted = 0
 X238 = [1.049e+01 1.861e+01 6.686e+01 3.343e+02 1.068e-01 6.678e-02 2.297e-02
 1.780e-02 1.482e-01 6.600e-02 1.485e-01 1.563e+00 1.035e+00 1.008e+01
 8.875e-03 9.362e-03 1.808e-02 9.199e-03 1.791e-02 3.317e-03 1.106e+01
 2.454e+01 7.076e+01 3.754e+02 1.413e-01 1.044e-01 8.423e-02 6.528e-02
 2.213e-01 7.842e-02], Class Predicted = 1
 X239 = [1.968e+01 2.168e+01 1.299e+02 1.194e+03 9.797e-02 1.339e-01 1.863e-01
 1.103e-01 2.082e-01 5.715e-02 6.226e-01 2.284e+00 5.173e+00 6.766e+01
 4.756e-03 3.368e-02 4.345e-02 1.806e-02 3.756e-02 3.288e-03 2.275e+01
 3.466e+01 1.576e+02 1.540e+03 1.218e-01 3.458e-01 4.734e-01 2.255e-01
 4.045e-01 7.918e-02], Class Predicted = 0
 X240 = [1.181e+01 1.739e+01 7.527e+01 4.289e+02 1.007e-01 5.562e-02 2.353e-02
 1.553e-02 1.718e-01 5.780e-02 1.859e-01 1.926e+00 1.011e+00 1.447e+01
 7.831e-03 8.776e-03 1.556e-02 6.240e-03 3.139e-02 1.988e-03 1.257e+01
 2.648e+01 7.957e+01 4.895e+02 1.356e-01 1.000e-01 8.803e-02 4.306e-02
 3.200e-01 6.576e-02], Class Predicted = 1
 X241 = [9.676e+00 1.314e+01 6.412e+01 2.725e+02 1.255e-01 2.204e-01 1.188e-01
 7.038e-02 2.057e-01 9.575e-02 2.744e-01 1.390e+00 1.787e+00 1.767e+01
 2.177e-02 4.888e-02 5.189e-02 1.450e-02 2.632e-02 1.148e-02 1.060e+01
 1.804e+01 6.947e+01 3.281e+02 2.006e-01 3.663e-01 2.913e-01 1.075e-01
 2.848e-01 1.364e-01], Class Predicted = 1
 X242 = [1.362e+01 2.323e+01 8.719e+01 5.732e+02 9.246e-02 6.747e-02 2.974e-02
 2.443e-02 1.664e-01 5.801e-02 3.460e-01 1.336e+00 2.066e+00 3.124e+01
 5.868e-03 2.099e-02 2.021e-02 9.064e-03 2.087e-02 2.583e-03 1.535e+01
 2.909e+01 9.758e+01 7.298e+02 1.216e-01 1.517e-01 1.049e-01 7.174e-02
 2.642e-01 6.953e-02], Class Predicted = 1
 X243 = [1.317e+01 2.181e+01 8.542e+01 5.315e+02 9.714e-02 1.047e-01 8.259e-02
 5.252e-02 1.746e-01 6.177e-02 1.938e-01 6.123e-01 1.334e+00 1.449e+01
 3.350e-03 1.384e-02 1.452e-02 6.853e-03 1.113e-02 1.720e-03 1.623e+01

2.989e+01 1.055e+02 7.407e+02 1.503e-01 3.904e-01 3.728e-01 1.607e-01
 3.693e-01 9.618e-02], Class Predicted = 0
 X244 = [1.453e+01 1.398e+01 9.386e+01 6.442e+02 1.099e-01 9.242e-02 6.895e-02
 6.495e-02 1.650e-01 6.121e-02 3.060e-01 7.213e-01 2.143e+00 2.570e+01
 6.133e-03 1.251e-02 1.615e-02 1.136e-02 2.207e-02 3.563e-03 1.580e+01
 1.693e+01 1.031e+02 7.499e+02 1.347e-01 1.478e-01 1.373e-01 1.069e-01
 2.606e-01 7.810e-02], Class Predicted = 1
 X245 = [1.249e+01 1.685e+01 7.919e+01 4.816e+02 8.511e-02 3.834e-02 4.473e-03
 6.423e-03 1.215e-01 5.673e-02 1.716e-01 7.151e-01 1.047e+00 1.269e+01
 4.928e-03 3.012e-03 2.620e-03 3.390e-03 1.393e-02 1.344e-03 1.334e+01
 1.971e+01 8.448e+01 5.442e+02 1.104e-01 4.953e-02 1.938e-02 2.784e-02
 1.917e-01 6.174e-02], Class Predicted = 1
 X246 = [1.377e+01 1.327e+01 8.806e+01 5.827e+02 9.198e-02 6.221e-02 1.063e-02
 1.917e-02 1.592e-01 5.912e-02 2.191e-01 6.946e-01 1.479e+00 1.774e+01
 4.348e-03 8.153e-03 4.272e-03 6.829e-03 2.154e-02 1.802e-03 1.467e+01
 1.693e+01 9.417e+01 6.611e+02 1.170e-01 1.072e-01 3.732e-02 5.802e-02
 2.823e-01 6.794e-02], Class Predicted = 1
 X247 = [1.486e+01 2.321e+01 1.004e+02 6.714e+02 1.044e-01 1.980e-01 1.697e-01
 8.878e-02 1.737e-01 6.672e-02 2.796e-01 9.622e-01 3.591e+00 2.520e+01
 8.081e-03 5.122e-02 5.551e-02 1.883e-02 2.545e-02 4.312e-03 1.608e+01
 2.778e+01 1.186e+02 7.847e+02 1.316e-01 4.648e-01 4.589e-01 1.727e-01
 3.000e-01 8.701e-02], Class Predicted = 0
 X248 = [1.234e+01 2.686e+01 8.115e+01 4.774e+02 1.034e-01 1.353e-01 1.085e-01
 4.562e-02 1.943e-01 6.937e-02 4.053e-01 1.809e+00 2.642e+00 3.444e+01
 9.098e-03 3.845e-02 3.763e-02 1.321e-02 1.878e-02 5.672e-03 1.565e+01
 3.934e+01 1.017e+02 7.689e+02 1.785e-01 4.706e-01 4.425e-01 1.459e-01
 3.215e-01 1.205e-01], Class Predicted = 1
 X249 = [1.346e+01 2.821e+01 8.589e+01 5.621e+02 7.517e-02 4.726e-02 1.271e-02
 1.117e-02 1.421e-01 5.763e-02 1.689e-01 1.150e+00 1.400e+00 1.491e+01
 4.942e-03 1.203e-02 7.508e-03 5.179e-03 1.442e-02 1.684e-03 1.469e+01
 3.563e+01 9.711e+01 6.806e+02 1.108e-01 1.457e-01 7.934e-02 5.781e-02
 2.694e-01 7.061e-02], Class Predicted = 1
 X250 = [1.459e+01 2.268e+01 9.639e+01 6.571e+02 8.473e-02 1.330e-01 1.029e-01
 3.736e-02 1.454e-01 6.147e-02 2.254e-01 1.108e+00 2.224e+00 1.954e+01
 4.242e-03 4.639e-02 6.578e-02 1.606e-02 1.638e-02 4.406e-03 1.548e+01
 2.727e+01 1.059e+02 7.335e+02 1.026e-01 3.171e-01 3.662e-01 1.105e-01
 2.258e-01 8.004e-02], Class Predicted = 1
 X251 = [9.465e+00 2.101e+01 6.011e+01 2.694e+02 1.044e-01 7.773e-02 2.172e-02
 1.504e-02 1.717e-01 6.899e-02 2.351e-01 2.011e+00 1.660e+00 1.420e+01
 1.052e-02 1.755e-02 1.714e-02 9.333e-03 2.279e-02 4.237e-03 1.041e+01
 3.156e+01 6.703e+01 3.307e+02 1.548e-01 1.664e-01 9.412e-02 6.517e-02
 2.878e-01 9.211e-02], Class Predicted = 1
 X252 = [1.385e+01 1.518e+01 8.899e+01 5.874e+02 9.516e-02 7.688e-02 4.479e-02
 3.711e-02 2.110e-01 5.853e-02 2.479e-01 9.195e-01 1.830e+00 1.941e+01
 4.235e-03 1.541e-02 1.457e-02 1.043e-02 1.528e-02 1.593e-03 1.498e+01
 2.174e+01 9.837e+01 6.700e+02 1.185e-01 1.724e-01 1.456e-01 9.993e-02
 2.955e-01 6.912e-02], Class Predicted = 1
 X253 = [1.705e+01 1.908e+01 1.134e+02 8.950e+02 1.141e-01 1.572e-01 1.910e-01
 1.090e-01 2.131e-01 6.325e-02 2.959e-01 6.790e-01 2.153e+00 3.198e+01
 5.532e-03 2.008e-02 3.055e-02 1.384e-02 1.177e-02 2.336e-03 1.959e+01
 2.489e+01 1.335e+02 1.189e+03 1.703e-01 3.934e-01 5.018e-01 2.543e-01
 3.109e-01 9.061e-02], Class Predicted = 0
 X254 = [1.831e+01 2.058e+01 1.208e+02 1.052e+03 1.068e-01 1.248e-01 1.569e-01
 9.451e-02 1.860e-01 5.941e-02 5.449e-01 9.225e-01 3.218e+00 6.736e+01
 6.176e-03 1.877e-02 2.913e-02 1.046e-02 1.559e-02 2.725e-03 2.186e+01
 2.620e+01 1.422e+02 1.493e+03 1.492e-01 2.536e-01 3.759e-01 1.510e-01
 3.074e-01 7.863e-02], Class Predicted = 0
 X255 = [1.504e+01 1.674e+01 9.873e+01 6.894e+02 9.883e-02 1.364e-01 7.721e-02
 6.142e-02 1.668e-01 6.869e-02 3.720e-01 8.423e-01 2.304e+00 3.484e+01
 4.123e-03 1.819e-02 1.996e-02 1.004e-02 1.055e-02 3.237e-03 1.676e+01
 2.043e+01 1.097e+02 8.569e+02 1.135e-01 2.176e-01 1.856e-01 1.018e-01
 2.177e-01 8.549e-02], Class Predicted = 1
 X256 = [1.044e+01 1.546e+01 6.662e+01 3.296e+02 1.053e-01 7.722e-02 6.643e-03
 1.216e-02 1.788e-01 6.450e-02 1.913e-01 9.027e-01 1.208e+00 1.186e+01
 6.513e-03 8.061e-03 2.817e-03 4.972e-03 1.502e-02 2.821e-03 1.152e+01
 1.980e+01 7.347e+01 3.954e+02 1.341e-01 1.153e-01 2.639e-02 4.464e-02
 2.615e-01 8.269e-02], Class Predicted = 1
 X257 = [1.882e+01 2.197e+01 1.237e+02 1.110e+03 1.018e-01 1.389e-01 1.594e-01
 8.744e-02 1.943e-01 6.132e-02 8.191e-01 1.931e+00 4.493e+00 1.039e+02

8.074e-03 4.088e-02 5.321e-02 1.834e-02 2.383e-02 4.515e-03 2.266e+01
 3.093e+01 1.453e+02 1.603e+03 1.390e-01 3.463e-01 3.912e-01 1.708e-01
 3.007e-01 8.314e-02], Class Predicted = 0
 X258 = [1.364e+01 1.634e+01 8.721e+01 5.718e+02 7.685e-02 6.059e-02 1.857e-02
 1.723e-02 1.353e-01 5.953e-02 1.872e-01 9.234e-01 1.449e+00 1.455e+01
 4.477e-03 1.177e-02 1.079e-02 7.956e-03 1.325e-02 2.551e-03 1.467e+01
 2.319e+01 9.608e+01 6.567e+02 1.089e-01 1.582e-01 1.050e-01 8.586e-02
 2.346e-01 8.025e-02], Class Predicted = 1
 X259 = [1.487e+01 1.667e+01 9.864e+01 6.825e+02 1.162e-01 1.649e-01 1.690e-01
 8.923e-02 2.157e-01 6.768e-02 4.266e-01 9.489e-01 2.989e+00 4.118e+01
 6.985e-03 2.563e-02 3.011e-02 1.271e-02 1.602e-02 3.884e-03 1.881e+01
 2.737e+01 1.271e+02 1.095e+03 1.878e-01 4.480e-01 4.704e-01 2.027e-01
 3.585e-01 1.065e-01], Class Predicted = 0
 X260 = [1.624e+01 1.877e+01 1.088e+02 8.051e+02 1.066e-01 1.802e-01 1.948e-01
 9.052e-02 1.876e-01 6.684e-02 2.873e-01 9.173e-01 2.464e+00 2.809e+01
 4.563e-03 3.481e-02 3.872e-02 1.209e-02 1.388e-02 4.081e-03 1.855e+01
 2.509e+01 1.269e+02 1.031e+03 1.365e-01 4.706e-01 5.026e-01 1.732e-01
 2.770e-01 1.063e-01], Class Predicted = 0
 X261 = [1.317e+01 1.866e+01 8.598e+01 5.346e+02 1.158e-01 1.231e-01 1.226e-01
 7.340e-02 2.128e-01 6.777e-02 2.871e-01 8.937e-01 1.897e+00 2.425e+01
 6.532e-03 2.336e-02 2.905e-02 1.215e-02 1.743e-02 3.643e-03 1.567e+01
 2.795e+01 1.028e+02 7.594e+02 1.786e-01 4.166e-01 5.006e-01 2.088e-01
 3.900e-01 1.179e-01], Class Predicted = 0
 X262 = [1.231e+01 1.652e+01 7.919e+01 4.709e+02 9.172e-02 6.829e-02 3.372e-02
 2.272e-02 1.720e-01 5.914e-02 2.505e-01 1.025e+00 1.740e+00 1.968e+01
 4.854e-03 1.819e-02 1.826e-02 7.965e-03 1.386e-02 2.304e-03 1.411e+01
 2.321e+01 8.971e+01 6.111e+02 1.176e-01 1.843e-01 1.703e-01 8.660e-02
 2.618e-01 7.609e-02], Class Predicted = 1
 X263 = [9.738e+00 1.197e+01 6.124e+01 2.885e+02 9.250e-02 4.102e-02 0.000e+00
 0.000e+00 1.903e-01 6.422e-02 1.988e-01 4.960e-01 1.218e+00 1.226e+01
 6.040e-03 5.656e-03 0.000e+00 0.000e+00 2.277e-02 3.220e-03 1.062e+01
 1.410e+01 6.653e+01 3.429e+02 1.234e-01 7.204e-02 0.000e+00 0.000e+00
 3.105e-01 8.151e-02], Class Predicted = 1
 X264 = [1.398e+01 1.962e+01 9.112e+01 5.995e+02 1.060e-01 1.133e-01 1.126e-01
 6.463e-02 1.669e-01 6.544e-02 2.208e-01 9.533e-01 1.602e+00 1.885e+01
 5.314e-03 1.791e-02 2.185e-02 9.567e-03 1.223e-02 2.846e-03 1.704e+01
 3.080e+01 1.139e+02 8.693e+02 1.613e-01 3.568e-01 4.069e-01 1.827e-01
 3.179e-01 1.055e-01], Class Predicted = 0
 X265 = [1.635e+01 2.329e+01 1.090e+02 8.404e+02 9.742e-02 1.497e-01 1.811e-01
 8.773e-02 2.175e-01 6.218e-02 4.312e-01 1.022e+00 2.972e+00 4.550e+01
 5.635e-03 3.917e-02 6.072e-02 1.656e-02 3.197e-02 4.085e-03 1.938e+01
 3.103e+01 1.293e+02 1.165e+03 1.415e-01 4.665e-01 7.087e-01 2.248e-01
 4.824e-01 9.614e-02], Class Predicted = 0
 X266 = [1.382e+01 2.449e+01 9.233e+01 5.959e+02 1.162e-01 1.681e-01 1.357e-01
 6.759e-02 2.275e-01 7.237e-02 4.751e-01 1.528e+00 2.974e+00 3.905e+01
 9.680e-03 3.856e-02 3.476e-02 1.616e-02 2.434e-02 6.995e-03 1.601e+01
 3.294e+01 1.060e+02 7.880e+02 1.794e-01 3.966e-01 3.381e-01 1.521e-01
 3.651e-01 1.183e-01], Class Predicted = 0
 X267 = [1.512e+01 1.668e+01 9.878e+01 7.166e+02 8.876e-02 9.588e-02 7.550e-02
 4.079e-02 1.594e-01 5.986e-02 2.711e-01 3.621e-01 1.974e+00 2.644e+01
 5.472e-03 1.919e-02 2.039e-02 8.260e-03 1.523e-02 2.881e-03 1.777e+01
 2.024e+01 1.177e+02 9.895e+02 1.491e-01 3.331e-01 3.327e-01 1.252e-01
 3.415e-01 9.740e-02], Class Predicted = 0
 X268 = [1.916e+01 2.660e+01 1.262e+02 1.138e+03 1.020e-01 1.453e-01 1.921e-01
 9.664e-02 1.902e-01 6.220e-02 6.361e-01 1.001e+00 4.321e+00 6.965e+01
 7.392e-03 2.449e-02 3.988e-02 1.293e-02 1.435e-02 3.446e-03 2.372e+01
 3.590e+01 1.598e+02 1.724e+03 1.782e-01 3.841e-01 5.754e-01 1.872e-01
 3.258e-01 9.720e-02], Class Predicted = 0
 X269 = [1.578e+01 1.789e+01 1.036e+02 7.810e+02 9.710e-02 1.292e-01 9.954e-02
 6.606e-02 1.842e-01 6.082e-02 5.058e-01 9.849e-01 3.564e+00 5.416e+01
 5.771e-03 4.061e-02 2.791e-02 1.282e-02 2.008e-02 4.144e-03 2.042e+01
 2.728e+01 1.365e+02 1.299e+03 1.396e-01 5.609e-01 3.965e-01 1.810e-01
 3.792e-01 1.048e-01], Class Predicted = 0
 X270 = [1.185e+01 1.746e+01 7.554e+01 4.327e+02 8.372e-02 5.642e-02 2.688e-02
 2.280e-02 1.875e-01 5.715e-02 2.070e-01 1.238e+00 1.234e+00 1.388e+01
 7.595e-03 1.500e-02 1.412e-02 8.578e-03 1.792e-02 1.784e-03 1.306e+01
 2.575e+01 8.435e+01 5.178e+02 1.369e-01 1.758e-01 1.316e-01 9.140e-02
 3.101e-01 7.007e-02], Class Predicted = 1
 X271 = [1.462e+01 2.402e+01 9.457e+01 6.627e+02 8.974e-02 8.606e-02 3.102e-02

2.957e-02 1.685e-01 5.866e-02 3.721e-01 1.111e+00 2.279e+00 3.376e+01
 4.868e-03 1.818e-02 1.121e-02 8.606e-03 2.085e-02 2.893e-03 1.611e+01
 2.911e+01 1.029e+02 8.037e+02 1.115e-01 1.766e-01 9.189e-02 6.946e-02
 2.522e-01 7.246e-02], Class Predicted = 1
 X272 = [1.364e+01 1.560e+01 8.738e+01 5.753e+02 9.423e-02 6.630e-02 4.705e-02
 3.731e-02 1.717e-01 5.660e-02 3.242e-01 6.612e-01 1.996e+00 2.719e+01
 6.470e-03 1.248e-02 1.810e-02 1.103e-02 1.898e-02 1.794e-03 1.485e+01
 1.905e+01 9.411e+01 6.834e+02 1.278e-01 1.291e-01 1.533e-01 9.222e-02
 2.530e-01 6.510e-02], Class Predicted = 1
 X273 = [1.865e+01 1.760e+01 1.237e+02 1.076e+03 1.099e-01 1.686e-01 1.974e-01
 1.009e-01 1.907e-01 6.049e-02 6.289e-01 6.633e-01 4.293e+00 7.156e+01
 6.294e-03 3.994e-02 5.554e-02 1.695e-02 2.428e-02 3.535e-03 2.282e+01
 2.132e+01 1.506e+02 1.567e+03 1.679e-01 5.090e-01 7.345e-01 2.378e-01
 3.799e-01 9.185e-02], Class Predicted = 0
 X274 = [2.463e+01 2.160e+01 1.655e+02 1.841e+03 1.030e-01 2.106e-01 2.310e-01
 1.471e-01 1.991e-01 6.739e-02 9.915e-01 9.004e-01 7.050e+00 1.399e+02
 4.989e-03 3.212e-02 3.571e-02 1.597e-02 1.879e-02 4.760e-03 2.992e+01
 2.693e+01 2.057e+02 2.642e+03 1.342e-01 4.188e-01 4.658e-01 2.475e-01
 3.157e-01 9.671e-02], Class Predicted = 0
 X275 = [1.190e+01 1.465e+01 7.811e+01 4.328e+02 1.152e-01 1.296e-01 3.710e-02
 3.003e-02 1.995e-01 7.839e-02 3.962e-01 6.538e-01 3.021e+00 2.503e+01
 1.017e-02 4.741e-02 2.789e-02 1.110e-02 3.127e-02 9.423e-03 1.315e+01
 1.651e+01 8.626e+01 5.096e+02 1.424e-01 2.517e-01 9.420e-02 6.042e-02
 2.727e-01 1.036e-01], Class Predicted = 1
 X276 = [1.345e+01 1.830e+01 8.660e+01 5.551e+02 1.022e-01 8.165e-02 3.974e-02
 2.780e-02 1.638e-01 5.710e-02 2.950e-01 1.373e+00 2.099e+00 2.522e+01
 5.884e-03 1.491e-02 1.872e-02 9.366e-03 1.884e-02 1.817e-03 1.510e+01
 2.594e+01 9.759e+01 6.994e+02 1.339e-01 1.751e-01 1.381e-01 7.911e-02
 2.678e-01 6.603e-02], Class Predicted = 1
 X277 = [1.246e+01 1.989e+01 8.043e+01 4.713e+02 8.451e-02 1.014e-01 6.830e-02
 3.099e-02 1.781e-01 6.249e-02 3.642e-01 1.040e+00 2.579e+00 2.832e+01
 6.530e-03 3.369e-02 4.712e-02 1.403e-02 2.740e-02 4.651e-03 1.346e+01
 2.307e+01 8.813e+01 5.513e+02 1.050e-01 2.158e-01 1.904e-01 7.625e-02
 2.685e-01 7.764e-02], Class Predicted = 1
 X278 = [1.746e+01 3.928e+01 1.134e+02 9.206e+02 9.812e-02 1.298e-01 1.417e-01
 8.811e-02 1.809e-01 5.966e-02 5.366e-01 8.561e-01 3.002e+00 4.900e+01
 4.860e-03 2.785e-02 2.602e-02 1.374e-02 1.226e-02 2.759e-03 2.251e+01
 4.487e+01 1.412e+02 1.408e+03 1.365e-01 3.735e-01 3.241e-01 2.066e-01
 2.853e-01 8.496e-02], Class Predicted = 0
 X279 = [1.154e+01 1.444e+01 7.465e+01 4.029e+02 9.984e-02 1.120e-01 6.737e-02
 2.594e-02 1.818e-01 6.782e-02 2.784e-01 1.768e+00 1.628e+00 2.086e+01
 1.215e-02 4.112e-02 5.553e-02 1.494e-02 1.840e-02 5.512e-03 1.226e+01
 1.968e+01 7.878e+01 4.578e+02 1.345e-01 2.118e-01 1.797e-01 6.918e-02
 2.329e-01 8.134e-02], Class Predicted = 1
 X280 = [1.822e+01 1.887e+01 1.187e+02 1.027e+03 9.746e-02 1.117e-01 1.130e-01
 7.950e-02 1.807e-01 5.664e-02 4.041e-01 5.503e-01 2.547e+00 4.890e+01
 4.821e-03 1.659e-02 2.408e-02 1.143e-02 1.275e-02 2.451e-03 2.184e+01
 2.500e+01 1.409e+02 1.485e+03 1.434e-01 2.763e-01 3.853e-01 1.776e-01
 2.812e-01 8.198e-02], Class Predicted = 0
 X281 = [1.245e+01 1.570e+01 8.257e+01 4.771e+02 1.278e-01 1.700e-01 1.578e-01
 8.089e-02 2.087e-01 7.613e-02 3.345e-01 8.902e-01 2.217e+00 2.719e+01
 7.510e-03 3.345e-02 3.672e-02 1.137e-02 2.165e-02 5.082e-03 1.547e+01
 2.375e+01 1.034e+02 7.416e+02 1.791e-01 5.249e-01 5.355e-01 1.741e-01
 3.985e-01 1.244e-01], Class Predicted = 1
 X282 = [9.042e+00 1.890e+01 6.007e+01 2.445e+02 9.968e-02 1.972e-01 1.975e-01
 4.908e-02 2.330e-01 8.743e-02 4.653e-01 1.911e+00 3.769e+00 2.420e+01
 9.845e-03 6.590e-02 1.027e-01 2.527e-02 3.491e-02 7.877e-03 1.006e+01
 2.340e+01 6.862e+01 2.971e+02 1.221e-01 3.748e-01 4.609e-01 1.145e-01
 3.135e-01 1.055e-01], Class Predicted = 1
 X283 = [1.246e+01 1.283e+01 7.883e+01 4.773e+02 7.372e-02 4.043e-02 7.173e-03
 1.149e-02 1.613e-01 6.013e-02 3.276e-01 1.486e+00 2.108e+00 2.460e+01
 1.039e-02 1.003e-02 6.416e-03 7.895e-03 2.869e-02 4.821e-03 1.319e+01
 1.636e+01 8.324e+01 5.340e+02 9.439e-02 6.477e-02 1.674e-02 2.680e-02
 2.280e-01 7.028e-02], Class Predicted = 1
 X284 = [1.575e+01 1.922e+01 1.071e+02 7.586e+02 1.243e-01 2.364e-01 2.914e-01
 1.242e-01 2.375e-01 7.603e-02 5.204e-01 1.324e+00 3.477e+00 5.122e+01
 9.329e-03 6.559e-02 9.953e-02 2.283e-02 5.543e-02 7.330e-03 1.736e+01
 2.417e+01 1.194e+02 9.153e+02 1.550e-01 5.046e-01 6.872e-01 2.135e-01
 4.245e-01 1.050e-01], Class Predicted = 0

X285 = [1.754e+01 1.932e+01 1.151e+02 9.516e+02 8.968e-02 1.198e-01 1.036e-01
 7.488e-02 1.506e-01 5.491e-02 3.971e-01 8.282e-01 3.088e+00 4.073e+01
 6.090e-03 2.569e-02 2.713e-02 1.345e-02 1.594e-02 2.658e-03 2.042e+01
 2.584e+01 1.395e+02 1.239e+03 1.381e-01 3.420e-01 3.508e-01 1.939e-01
 2.928e-01 7.867e-02], Class Predicted = 0
 X286 = [1.126e+01 1.983e+01 7.130e+01 3.881e+02 8.511e-02 4.413e-02 5.067e-03
 5.664e-03 1.637e-01 6.343e-02 1.344e-01 1.083e+00 9.812e-01 9.332e+00
 4.200e-03 5.900e-03 3.846e-03 4.065e-03 1.487e-02 2.295e-03 1.193e+01
 2.643e+01 7.638e+01 4.359e+02 1.108e-01 7.723e-02 2.533e-02 2.832e-02
 2.557e-01 7.613e-02], Class Predicted = 1
 X287 = [1.458e+01 2.153e+01 9.741e+01 6.448e+02 1.054e-01 1.868e-01 1.425e-01
 8.783e-02 2.252e-01 6.924e-02 2.545e-01 9.832e-01 2.110e+00 2.105e+01
 4.452e-03 3.055e-02 2.681e-02 1.352e-02 1.454e-02 3.711e-03 1.762e+01
 3.321e+01 1.224e+02 8.969e+02 1.525e-01 6.643e-01 5.539e-01 2.701e-01
 4.264e-01 1.275e-01], Class Predicted = 0
 X288 = [1.184e+01 1.894e+01 7.551e+01 4.280e+02 8.871e-02 6.900e-02 2.669e-02
 1.393e-02 1.533e-01 6.057e-02 2.222e-01 8.652e-01 1.444e+00 1.712e+01
 5.517e-03 1.727e-02 2.045e-02 6.747e-03 1.616e-02 2.922e-03 1.330e+01
 2.499e+01 8.522e+01 5.463e+02 1.280e-01 1.880e-01 1.471e-01 6.913e-02
 2.535e-01 7.993e-02], Class Predicted = 1
 X289 = [1.088e+01 1.562e+01 7.041e+01 3.589e+02 1.007e-01 1.069e-01 5.115e-02
 1.571e-02 1.861e-01 6.837e-02 1.482e-01 5.380e-01 1.301e+00 9.597e+00
 4.474e-03 3.093e-02 2.757e-02 6.691e-03 1.212e-02 4.672e-03 1.194e+01
 1.935e+01 8.078e+01 4.331e+02 1.332e-01 3.898e-01 3.365e-01 7.966e-02
 2.581e-01 1.080e-01], Class Predicted = 1
 X290 = [1.232e+01 1.239e+01 7.885e+01 4.641e+02 1.028e-01 6.981e-02 3.987e-02
 3.700e-02 1.959e-01 5.955e-02 2.360e-01 6.656e-01 1.670e+00 1.743e+01
 8.045e-03 1.180e-02 1.683e-02 1.241e-02 1.924e-02 2.248e-03 1.350e+01
 1.564e+01 8.697e+01 5.491e+02 1.385e-01 1.266e-01 1.242e-01 9.391e-02
 2.827e-01 6.771e-02], Class Predicted = 1
 X291 = [1.288e+01 2.892e+01 8.250e+01 5.143e+02 8.123e-02 5.824e-02 6.195e-02
 2.343e-02 1.566e-01 5.708e-02 2.116e-01 1.360e+00 1.502e+00 1.683e+01
 8.412e-03 2.153e-02 3.898e-02 7.620e-03 1.695e-02 2.801e-03 1.389e+01
 3.574e+01 8.884e+01 5.957e+02 1.227e-01 1.620e-01 2.439e-01 6.493e-02
 2.372e-01 7.242e-02], Class Predicted = 1
 X292 = [1.927e+01 2.647e+01 1.279e+02 1.162e+03 9.401e-02 1.719e-01 1.657e-01
 7.593e-02 1.853e-01 6.261e-02 5.558e-01 6.062e-01 3.528e+00 6.817e+01
 5.015e-03 3.318e-02 3.497e-02 9.643e-03 1.543e-02 3.896e-03 2.415e+01
 3.090e+01 1.614e+02 1.813e+03 1.509e-01 6.590e-01 6.091e-01 1.785e-01
 3.672e-01 1.123e-01], Class Predicted = 0
 X293 = [1.194e+01 2.076e+01 7.787e+01 4.410e+02 8.605e-02 1.011e-01 6.574e-02
 3.791e-02 1.588e-01 6.766e-02 2.742e-01 1.390e+00 3.198e+00 2.191e+01
 6.719e-03 5.156e-02 4.387e-02 1.633e-02 1.872e-02 8.015e-03 1.324e+01
 2.729e+01 9.220e+01 5.461e+02 1.116e-01 2.813e-01 2.365e-01 1.155e-01
 2.465e-01 9.981e-02], Class Predicted = 1
 X294 = [1.799e+01 2.066e+01 1.178e+02 9.917e+02 1.036e-01 1.304e-01 1.201e-01
 8.824e-02 1.992e-01 6.069e-02 4.537e-01 8.733e-01 3.061e+00 4.981e+01
 7.231e-03 2.772e-02 2.509e-02 1.480e-02 1.414e-02 3.336e-03 2.108e+01
 2.541e+01 1.381e+02 1.349e+03 1.482e-01 3.735e-01 3.301e-01 1.974e-01
 3.060e-01 8.503e-02], Class Predicted = 0
 X295 = [1.354e+01 1.436e+01 8.746e+01 5.663e+02 9.779e-02 8.129e-02 6.664e-02
 4.781e-02 1.885e-01 5.766e-02 2.699e-01 7.886e-01 2.058e+00 2.356e+01
 8.462e-03 1.460e-02 2.387e-02 1.315e-02 1.980e-02 2.300e-03 1.511e+01
 1.926e+01 9.970e+01 7.112e+02 1.440e-01 1.773e-01 2.390e-01 1.288e-01
 2.977e-01 7.259e-02], Class Predicted = 1
 X296 = [2.351e+01 2.427e+01 1.551e+02 1.747e+03 1.069e-01 1.283e-01 2.308e-01
 1.410e-01 1.797e-01 5.506e-02 1.009e+00 9.245e-01 6.462e+00 1.641e+02
 6.292e-03 1.971e-02 3.582e-02 1.301e-02 1.479e-02 3.118e-03 3.067e+01
 3.073e+01 2.024e+02 2.906e+03 1.515e-01 2.678e-01 4.819e-01 2.089e-01
 2.593e-01 7.738e-02], Class Predicted = 0
 X297 = [1.277e+01 2.141e+01 8.202e+01 5.074e+02 8.749e-02 6.601e-02 3.112e-02
 2.864e-02 1.694e-01 6.287e-02 7.311e-01 1.748e+00 5.118e+00 5.365e+01
 4.571e-03 1.790e-02 2.176e-02 1.757e-02 3.373e-02 5.875e-03 1.375e+01
 2.350e+01 8.904e+01 5.795e+02 9.388e-02 8.978e-02 5.186e-02 4.773e-02
 2.179e-01 6.871e-02], Class Predicted = 1
 X298 = [1.299e+01 1.423e+01 8.408e+01 5.143e+02 9.462e-02 9.965e-02 3.738e-02
 2.098e-02 1.652e-01 7.238e-02 1.814e-01 6.412e-01 9.219e-01 1.441e+01
 5.231e-03 2.305e-02 3.113e-02 7.315e-03 1.639e-02 5.701e-03 1.372e+01
 1.691e+01 8.738e+01 5.760e+02 1.142e-01 1.975e-01 1.450e-01 5.850e-02

2.432e-01 1.009e-01], Class Predicted = 1
 X299 = [1.402e+01 1.566e+01 8.959e+01 6.065e+02 7.966e-02 5.581e-02 2.087e-02
 2.652e-02 1.589e-01 5.586e-02 2.142e-01 6.549e-01 1.606e+00 1.925e+01
 4.837e-03 9.238e-03 9.213e-03 1.076e-02 1.171e-02 2.104e-03 1.491e+01
 1.931e+01 9.653e+01 6.889e+02 1.034e-01 1.017e-01 6.260e-02 8.216e-02
 2.136e-01 6.710e-02], Class Predicted = 1
 X300 = [1.277e+01 2.943e+01 8.135e+01 5.079e+02 8.276e-02 4.234e-02 1.997e-02
 1.499e-02 1.539e-01 5.637e-02 2.409e-01 1.367e+00 1.477e+00 1.876e+01
 8.835e-03 1.233e-02 1.328e-02 9.305e-03 1.897e-02 1.726e-03 1.387e+01
 3.600e+01 8.810e+01 5.947e+02 1.234e-01 1.064e-01 8.653e-02 6.498e-02
 2.407e-01 6.484e-02], Class Predicted = 1
 X301 = [2.018e+01 1.954e+01 1.338e+02 1.250e+03 1.133e-01 1.489e-01 2.133e-01
 1.259e-01 1.724e-01 6.053e-02 4.331e-01 1.001e+00 3.008e+00 5.249e+01
 9.087e-03 2.715e-02 5.546e-02 1.910e-02 2.451e-02 4.005e-03 2.203e+01
 2.507e+01 1.460e+02 1.479e+03 1.665e-01 2.942e-01 5.308e-01 2.173e-01
 3.032e-01 8.075e-02], Class Predicted = 0
 X302 = [1.625e+01 1.951e+01 1.098e+02 8.158e+02 1.026e-01 1.893e-01 2.236e-01
 9.194e-02 2.151e-01 6.578e-02 3.147e-01 9.857e-01 3.070e+00 3.312e+01
 9.197e-03 5.470e-02 8.079e-02 2.215e-02 2.773e-02 6.355e-03 1.739e+01
 2.305e+01 1.221e+02 9.397e+02 1.377e-01 4.462e-01 5.897e-01 1.775e-01
 3.318e-01 9.136e-02], Class Predicted = 0
 X303 = [2.811e+01 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01
 1.595e-01 1.648e-01 5.525e-02 2.873e+00 1.476e+00 2.198e+01 5.256e+02
 1.345e-02 2.772e-02 6.389e-02 1.407e-02 4.783e-02 4.476e-03 2.811e+01
 1.847e+01 1.885e+02 2.499e+03 1.142e-01 1.516e-01 3.201e-01 1.595e-01
 1.648e-01 5.525e-02], Class Predicted = 0
 X304 = [1.371e+01 1.868e+01 8.873e+01 5.710e+02 9.916e-02 1.070e-01 5.385e-02
 3.783e-02 1.714e-01 6.843e-02 3.191e-01 1.249e+00 2.284e+00 2.645e+01
 6.739e-03 2.251e-02 2.086e-02 1.352e-02 1.870e-02 3.747e-03 1.511e+01
 2.563e+01 9.943e+01 7.019e+02 1.425e-01 2.566e-01 1.935e-01 1.284e-01
 2.849e-01 9.031e-02], Class Predicted = 1
 X305 = [8.726e+00 1.583e+01 5.584e+01 2.309e+02 1.150e-01 8.201e-02 4.132e-02
 1.924e-02 1.649e-01 7.633e-02 1.665e-01 5.864e-01 1.354e+00 8.966e+00
 8.261e-03 2.213e-02 3.259e-02 1.040e-02 1.708e-02 3.806e-03 9.628e+00
 1.962e+01 6.448e+01 2.844e+02 1.724e-01 2.364e-01 2.456e-01 1.050e-01
 2.926e-01 1.017e-01], Class Predicted = 1
 X306 = [1.136e+01 1.757e+01 7.249e+01 3.998e+02 8.858e-02 5.313e-02 2.783e-02
 2.100e-02 1.601e-01 5.913e-02 1.916e-01 1.555e+00 1.359e+00 1.366e+01
 5.391e-03 9.947e-03 1.163e-02 5.872e-03 1.341e-02 1.659e-03 1.305e+01
 3.632e+01 8.507e+01 5.213e+02 1.453e-01 1.622e-01 1.811e-01 8.698e-02
 2.973e-01 7.745e-02], Class Predicted = 1
 X307 = [1.130e+01 1.819e+01 7.393e+01 3.894e+02 9.592e-02 1.325e-01 1.548e-01
 2.854e-02 2.054e-01 7.669e-02 2.428e-01 1.642e+00 2.369e+00 1.639e+01
 6.663e-03 5.914e-02 8.880e-02 1.314e-02 1.995e-02 8.675e-03 1.258e+01
 2.796e+01 8.716e+01 4.729e+02 1.347e-01 4.848e-01 7.436e-01 1.218e-01
 3.308e-01 1.297e-01], Class Predicted = 1
 X308 = [1.350e+01 1.271e+01 8.569e+01 5.662e+02 7.376e-02 3.614e-02 2.758e-03
 4.419e-03 1.365e-01 5.335e-02 2.244e-01 6.864e-01 1.509e+00 2.039e+01
 3.338e-03 3.746e-03 2.030e-03 3.242e-03 1.480e-02 1.566e-03 1.497e+01
 1.694e+01 9.548e+01 6.987e+02 9.023e-02 5.836e-02 1.379e-02 2.210e-02
 2.267e-01 6.192e-02], Class Predicted = 1
 X309 = [1.106e+01 1.483e+01 7.031e+01 3.782e+02 7.741e-02 4.768e-02 2.712e-02
 7.246e-03 1.535e-01 6.214e-02 1.855e-01 6.881e-01 1.263e+00 1.298e+01
 4.259e-03 1.469e-02 1.940e-02 4.168e-03 1.191e-02 3.537e-03 1.268e+01
 2.035e+01 8.079e+01 4.967e+02 1.120e-01 1.879e-01 2.079e-01 5.556e-02
 2.590e-01 9.158e-02], Class Predicted = 1
 X310 = [1.048e+01 1.986e+01 6.672e+01 3.377e+02 1.070e-01 5.971e-02 4.831e-02
 3.070e-02 1.737e-01 6.440e-02 3.719e-01 2.612e+00 2.517e+00 2.322e+01
 1.604e-02 1.386e-02 1.865e-02 1.133e-02 3.476e-02 3.560e-03 1.148e+01
 2.946e+01 7.368e+01 4.028e+02 1.515e-01 1.026e-01 1.181e-01 6.736e-02
 2.883e-01 7.748e-02], Class Predicted = 1
 X311 = [1.845e+01 2.191e+01 1.202e+02 1.075e+03 9.430e-02 9.709e-02 1.153e-01
 6.847e-02 1.692e-01 5.727e-02 5.959e-01 1.202e+00 3.766e+00 6.835e+01
 6.001e-03 1.422e-02 2.855e-02 9.148e-03 1.492e-02 2.205e-03 2.252e+01
 3.139e+01 1.456e+02 1.590e+03 1.465e-01 2.275e-01 3.965e-01 1.379e-01
 3.109e-01 7.610e-02], Class Predicted = 0
 X312 = [1.471e+01 2.159e+01 9.555e+01 6.569e+02 1.137e-01 1.365e-01 1.293e-01
 8.123e-02 2.027e-01 6.758e-02 4.226e-01 1.150e+00 2.735e+00 4.009e+01
 3.659e-03 2.855e-02 2.572e-02 1.272e-02 1.817e-02 4.108e-03 1.787e+01

3.070e+01 1.157e+02 9.855e+02 1.368e-01 4.290e-01 3.587e-01 1.834e-01
 3.698e-01 1.094e-01], Class Predicted = 0
 X313 = [1.702e+01 2.398e+01 1.128e+02 8.993e+02 1.197e-01 1.496e-01 2.417e-01
 1.203e-01 2.248e-01 6.382e-02 6.009e-01 1.398e+00 3.999e+00 6.778e+01
 8.268e-03 3.082e-02 5.042e-02 1.112e-02 2.102e-02 3.854e-03 2.088e+01
 3.209e+01 1.361e+02 1.344e+03 1.634e-01 3.559e-01 5.588e-01 1.847e-01
 3.530e-01 8.482e-02], Class Predicted = 0
 X314 = [2.057e+01 1.777e+01 1.329e+02 1.326e+03 8.474e-02 7.864e-02 8.690e-02
 7.017e-02 1.812e-01 5.667e-02 5.435e-01 7.339e-01 3.398e+00 7.408e+01
 5.225e-03 1.308e-02 1.860e-02 1.340e-02 1.389e-02 3.532e-03 2.499e+01
 2.341e+01 1.588e+02 1.956e+03 1.238e-01 1.866e-01 2.416e-01 1.860e-01
 2.750e-01 8.902e-02], Class Predicted = 0
 X315 = [1.163e+01 2.929e+01 7.487e+01 4.151e+02 9.357e-02 8.574e-02 7.160e-02
 2.017e-02 1.799e-01 6.166e-02 3.135e-01 2.426e+00 2.150e+00 2.313e+01
 9.861e-03 2.418e-02 4.275e-02 9.215e-03 2.475e-02 2.128e-03 1.312e+01
 3.881e+01 8.604e+01 5.278e+02 1.406e-01 2.031e-01 2.923e-01 6.835e-02
 2.884e-01 7.220e-02], Class Predicted = 1
 X316 = [1.080e+01 9.710e+00 6.877e+01 3.576e+02 9.594e-02 5.736e-02 2.531e-02
 1.698e-02 1.381e-01 6.400e-02 1.728e-01 4.064e-01 1.126e+00 1.148e+01
 7.809e-03 9.816e-03 1.099e-02 5.344e-03 1.254e-02 2.120e-03 1.160e+01
 1.202e+01 7.366e+01 4.140e+02 1.436e-01 1.257e-01 1.047e-01 4.603e-02
 2.090e-01 7.699e-02], Class Predicted = 1
 X317 = [1.420e+01 2.053e+01 9.241e+01 6.184e+02 8.931e-02 1.108e-01 5.063e-02
 3.058e-02 1.506e-01 6.009e-02 3.478e-01 1.018e+00 2.749e+00 3.101e+01
 4.107e-03 3.288e-02 2.821e-02 1.350e-02 1.610e-02 2.744e-03 1.645e+01
 2.726e+01 1.121e+02 8.285e+02 1.153e-01 3.429e-01 2.512e-01 1.339e-01
 2.534e-01 7.858e-02], Class Predicted = 1
 X318 = [1.314e+01 2.074e+01 8.598e+01 5.369e+02 8.675e-02 1.089e-01 1.085e-01
 3.510e-02 1.562e-01 6.020e-02 3.152e-01 7.884e-01 2.312e+00 2.740e+01
 7.295e-03 3.179e-02 4.615e-02 1.254e-02 1.561e-02 3.230e-03 1.480e+01
 2.546e+01 1.009e+02 6.891e+02 1.351e-01 3.549e-01 4.504e-01 1.181e-01
 2.563e-01 8.174e-02], Class Predicted = 1
 X319 = [2.156e+01 2.239e+01 1.420e+02 1.479e+03 1.110e-01 1.159e-01 2.439e-01
 1.389e-01 1.726e-01 5.623e-02 1.176e+00 1.256e+00 7.673e+00 1.587e+02
 1.030e-02 2.891e-02 5.198e-02 2.454e-02 1.114e-02 4.239e-03 2.545e+01
 2.640e+01 1.661e+02 2.027e+03 1.410e-01 2.113e-01 4.107e-01 2.216e-01
 2.060e-01 7.115e-02], Class Predicted = 0
 X320 = [1.018e+01 1.753e+01 6.512e+01 3.131e+02 1.061e-01 8.502e-02 1.768e-02
 1.915e-02 1.910e-01 6.908e-02 2.467e-01 1.217e+00 1.641e+00 1.505e+01
 7.899e-03 1.400e-02 8.534e-03 7.624e-03 2.637e-02 3.761e-03 1.117e+01
 2.284e+01 7.194e+01 3.756e+02 1.406e-01 1.440e-01 6.572e-02 5.575e-02
 3.055e-01 8.797e-02], Class Predicted = 1
 X321 = [1.205e+01 1.463e+01 7.804e+01 4.493e+02 1.031e-01 9.092e-02 6.592e-02
 2.749e-02 1.675e-01 6.043e-02 2.636e-01 7.294e-01 1.848e+00 1.987e+01
 5.488e-03 1.427e-02 2.322e-02 5.660e-03 1.428e-02 2.422e-03 1.376e+01
 2.070e+01 8.988e+01 5.826e+02 1.494e-01 2.156e-01 3.050e-01 6.548e-02
 2.747e-01 8.301e-02], Class Predicted = 1
 X322 = [1.152e+01 1.493e+01 7.387e+01 4.063e+02 1.013e-01 7.808e-02 4.328e-02
 2.929e-02 1.883e-01 6.168e-02 2.562e-01 1.038e+00 1.686e+00 1.862e+01
 6.662e-03 1.228e-02 2.105e-02 1.006e-02 1.677e-02 2.784e-03 1.265e+01
 2.119e+01 8.088e+01 4.918e+02 1.389e-01 1.582e-01 1.804e-01 9.608e-02
 2.664e-01 7.809e-02], Class Predicted = 1
 X323 = [1.171e+01 1.667e+01 7.472e+01 4.236e+02 1.051e-01 6.095e-02 3.592e-02
 2.600e-02 1.339e-01 5.945e-02 4.489e-01 2.508e+00 3.258e+00 3.437e+01
 6.578e-03 1.380e-02 2.662e-02 1.307e-02 1.359e-02 3.707e-03 1.333e+01
 2.548e+01 8.616e+01 5.467e+02 1.271e-01 1.028e-01 1.046e-01 6.968e-02
 1.712e-01 7.343e-02], Class Predicted = 1
 X324 = [1.877e+01 2.143e+01 1.229e+02 1.092e+03 9.116e-02 1.402e-01 1.060e-01
 6.090e-02 1.953e-01 6.083e-02 6.422e-01 1.530e+00 4.369e+00 8.825e+01
 7.548e-03 3.897e-02 3.914e-02 1.816e-02 2.168e-02 4.445e-03 2.454e+01
 3.437e+01 1.611e+02 1.873e+03 1.498e-01 4.827e-01 4.634e-01 2.048e-01
 3.679e-01 9.870e-02], Class Predicted = 0
 X325 = [1.349e+01 2.230e+01 8.691e+01 5.610e+02 8.752e-02 7.698e-02 4.751e-02
 3.384e-02 1.809e-01 5.718e-02 2.338e-01 1.353e+00 1.735e+00 2.020e+01
 4.455e-03 1.382e-02 2.095e-02 1.184e-02 1.641e-02 1.956e-03 1.515e+01
 3.182e+01 9.900e+01 6.988e+02 1.162e-01 1.711e-01 2.282e-01 1.282e-01
 2.871e-01 6.917e-02], Class Predicted = 1
 X326 = [1.113e+01 2.244e+01 7.149e+01 3.784e+02 9.566e-02 8.194e-02 4.824e-02
 2.257e-02 2.030e-01 6.552e-02 2.800e-01 1.467e+00 1.994e+00 1.785e+01

3.495e-03 3.051e-02 3.445e-02 1.024e-02 2.912e-02 4.723e-03 1.202e+01
 2.826e+01 7.780e+01 4.366e+02 1.087e-01 1.782e-01 1.564e-01 6.413e-02
 3.169e-01 8.032e-02], Class Predicted = 1
 X327 = [1.296e+01 1.829e+01 8.418e+01 5.252e+02 7.351e-02 7.899e-02 4.057e-02
 1.883e-02 1.874e-01 5.899e-02 2.357e-01 1.299e+00 2.397e+00 2.021e+01
 3.629e-03 3.713e-02 3.452e-02 1.065e-02 2.632e-02 3.705e-03 1.413e+01
 2.461e+01 9.631e+01 6.219e+02 9.329e-02 2.318e-01 1.604e-01 6.608e-02
 3.207e-01 7.247e-02], Class Predicted = 1
 X328 = [1.646e+01 2.011e+01 1.093e+02 8.329e+02 9.831e-02 1.556e-01 1.793e-01
 8.866e-02 1.794e-01 6.323e-02 3.037e-01 1.284e+00 2.482e+00 3.159e+01
 6.627e-03 4.094e-02 5.371e-02 1.813e-02 1.682e-02 4.584e-03 1.779e+01
 2.845e+01 1.235e+02 9.812e+02 1.415e-01 4.667e-01 5.862e-01 2.035e-01
 3.054e-01 9.519e-02], Class Predicted = 0
 X329 = [1.245e+01 1.641e+01 8.285e+01 4.767e+02 9.514e-02 1.511e-01 1.544e-01
 4.846e-02 2.082e-01 7.325e-02 3.921e-01 1.207e+00 5.004e+00 3.019e+01
 7.234e-03 7.471e-02 1.114e-01 2.721e-02 3.232e-02 9.627e-03 1.378e+01
 2.103e+01 9.782e+01 5.806e+02 1.175e-01 4.061e-01 4.896e-01 1.342e-01
 3.231e-01 1.034e-01], Class Predicted = 1
 X330 = [1.513e+01 2.981e+01 9.671e+01 7.195e+02 8.320e-02 4.605e-02 4.686e-02
 2.739e-02 1.852e-01 5.294e-02 4.681e-01 1.627e+00 3.043e+00 4.538e+01
 6.831e-03 1.427e-02 2.489e-02 9.087e-03 3.151e-02 1.750e-03 1.726e+01
 3.691e+01 1.101e+02 9.314e+02 1.148e-01 9.866e-02 1.547e-01 6.575e-02
 3.233e-01 6.165e-02], Class Predicted = 1
 X331 = [2.309e+01 1.983e+01 1.521e+02 1.682e+03 9.342e-02 1.275e-01 1.676e-01
 1.003e-01 1.505e-01 5.484e-02 1.291e+00 7.452e-01 9.635e+00 1.802e+02
 5.753e-03 3.356e-02 3.976e-02 2.156e-02 2.201e-02 2.897e-03 3.079e+01
 2.387e+01 2.115e+02 2.782e+03 1.199e-01 3.625e-01 3.794e-01 2.264e-01
 2.908e-01 7.277e-02], Class Predicted = 0
 X332 = [1.614e+01 1.486e+01 1.043e+02 8.000e+02 9.495e-02 8.501e-02 5.500e-02
 4.528e-02 1.735e-01 5.875e-02 2.387e-01 6.372e-01 1.729e+00 2.183e+01
 3.958e-03 1.246e-02 1.831e-02 8.747e-03 1.500e-02 1.621e-03 1.771e+01
 1.958e+01 1.159e+02 9.479e+02 1.206e-01 1.722e-01 2.310e-01 1.129e-01
 2.778e-01 7.012e-02], Class Predicted = 1
 X333 = [2.201e+01 2.190e+01 1.472e+02 1.482e+03 1.063e-01 1.954e-01 2.448e-01
 1.501e-01 1.824e-01 6.140e-02 1.008e+00 6.999e-01 7.561e+00 1.302e+02
 3.978e-03 2.821e-02 3.576e-02 1.471e-02 1.518e-02 3.796e-03 2.766e+01
 2.580e+01 1.950e+02 2.227e+03 1.294e-01 3.885e-01 4.756e-01 2.432e-01
 2.741e-01 8.574e-02], Class Predicted = 0
 X334 = [1.161e+01 1.602e+01 7.546e+01 4.082e+02 1.088e-01 1.168e-01 7.097e-02
 4.497e-02 1.886e-01 6.320e-02 2.456e-01 7.339e-01 1.667e+00 1.589e+01
 5.884e-03 2.005e-02 2.631e-02 1.304e-02 1.848e-02 1.982e-03 1.264e+01
 1.967e+01 8.193e+01 4.757e+02 1.415e-01 2.170e-01 2.302e-01 1.105e-01
 2.787e-01 7.427e-02], Class Predicted = 1
 X335 = [1.390e+01 1.924e+01 8.873e+01 6.029e+02 7.991e-02 5.326e-02 2.995e-02
 2.070e-02 1.579e-01 5.594e-02 3.316e-01 9.264e-01 2.056e+00 2.841e+01
 3.704e-03 1.082e-02 1.530e-02 6.275e-03 1.062e-02 2.217e-03 1.641e+01
 2.642e+01 1.044e+02 8.305e+02 1.064e-01 1.415e-01 1.673e-01 8.150e-02
 2.356e-01 7.603e-02], Class Predicted = 1
 X336 = [1.289e+01 1.570e+01 8.408e+01 5.166e+02 7.818e-02 9.580e-02 1.115e-01
 3.390e-02 1.432e-01 5.935e-02 2.913e-01 1.389e+00 2.347e+00 2.329e+01
 6.418e-03 3.961e-02 7.927e-02 1.774e-02 1.878e-02 3.696e-03 1.390e+01
 1.969e+01 9.212e+01 5.956e+02 9.926e-02 2.317e-01 3.344e-01 1.017e-01
 1.999e-01 7.127e-02], Class Predicted = 1
 X337 = [1.199e+01 2.489e+01 7.761e+01 4.413e+02 1.030e-01 9.218e-02 5.441e-02
 4.274e-02 1.820e-01 6.850e-02 2.623e-01 1.204e+00 1.865e+00 1.939e+01
 8.320e-03 2.025e-02 2.334e-02 1.665e-02 2.094e-02 3.674e-03 1.298e+01
 3.036e+01 8.448e+01 5.139e+02 1.311e-01 1.822e-01 1.609e-01 1.202e-01
 2.599e-01 8.251e-02], Class Predicted = 1
 X338 = [1.347e+01 1.406e+01 8.732e+01 5.463e+02 1.071e-01 1.155e-01 5.786e-02
 5.266e-02 1.779e-01 6.639e-02 1.588e-01 5.733e-01 1.102e+00 1.284e+01
 4.450e-03 1.452e-02 1.334e-02 8.791e-03 1.698e-02 2.787e-03 1.483e+01
 1.832e+01 9.494e+01 6.602e+02 1.393e-01 2.499e-01 1.848e-01 1.335e-01
 3.227e-01 9.326e-02], Class Predicted = 1
 X339 = [1.290e+01 1.592e+01 8.374e+01 5.122e+02 8.677e-02 9.509e-02 4.894e-02
 3.088e-02 1.778e-01 6.235e-02 2.143e-01 7.712e-01 1.689e+00 1.664e+01
 5.324e-03 1.563e-02 1.510e-02 7.584e-03 2.104e-02 1.887e-03 1.448e+01
 2.182e+01 9.717e+01 6.438e+02 1.312e-01 2.548e-01 2.090e-01 1.012e-01
 3.549e-01 8.118e-02], Class Predicted = 1
 X340 = [1.714e+01 1.640e+01 1.160e+02 9.127e+02 1.186e-01 2.276e-01 2.229e-01

1.401e-01 3.040e-01 7.413e-02 1.046e+00 9.760e-01 7.276e+00 1.114e+02
 8.029e-03 3.799e-02 3.732e-02 2.397e-02 2.308e-02 7.444e-03 2.225e+01
 2.140e+01 1.524e+02 1.461e+03 1.545e-01 3.949e-01 3.853e-01 2.550e-01
 4.066e-01 1.059e-01], Class Predicted = 0
 X341 = [1.530e+01 2.527e+01 1.024e+02 7.324e+02 1.082e-01 1.697e-01 1.683e-01
 8.751e-02 1.926e-01 6.540e-02 4.390e-01 1.012e+00 3.498e+00 4.350e+01
 5.233e-03 3.057e-02 3.576e-02 1.083e-02 1.768e-02 2.967e-03 2.027e+01
 3.671e+01 1.493e+02 1.269e+03 1.641e-01 6.110e-01 6.335e-01 2.024e-01
 4.027e-01 9.876e-02], Class Predicted = 0
 X342 = [2.573e+01 1.746e+01 1.742e+02 2.010e+03 1.149e-01 2.363e-01 3.368e-01
 1.913e-01 1.956e-01 6.121e-02 9.948e-01 8.509e-01 7.222e+00 1.531e+02
 6.369e-03 4.243e-02 4.266e-02 1.508e-02 2.335e-02 3.385e-03 3.313e+01
 2.358e+01 2.293e+02 3.234e+03 1.530e-01 5.937e-01 6.451e-01 2.756e-01
 3.690e-01 8.815e-02], Class Predicted = 0
 X343 = [1.340e+01 1.695e+01 8.548e+01 5.524e+02 7.937e-02 5.696e-02 2.181e-02
 1.473e-02 1.650e-01 5.701e-02 1.584e-01 6.124e-01 1.036e+00 1.322e+01
 4.394e-03 1.250e-02 1.451e-02 5.484e-03 1.291e-02 2.074e-03 1.473e+01
 2.170e+01 9.376e+01 6.635e+02 1.213e-01 1.676e-01 1.364e-01 6.987e-02
 2.741e-01 7.582e-02], Class Predicted = 1
 X344 = [1.143e+01 1.539e+01 7.306e+01 3.998e+02 9.639e-02 6.889e-02 3.503e-02
 2.875e-02 1.734e-01 5.865e-02 1.759e-01 9.938e-01 1.143e+00 1.267e+01
 5.133e-03 1.521e-02 1.434e-02 8.602e-03 1.501e-02 1.588e-03 1.232e+01
 2.202e+01 7.993e+01 4.620e+02 1.190e-01 1.648e-01 1.399e-01 8.476e-02
 2.676e-01 6.765e-02], Class Predicted = 1
 X345 = [1.316e+01 2.054e+01 8.406e+01 5.387e+02 7.335e-02 5.275e-02 1.800e-02
 1.256e-02 1.713e-01 5.888e-02 3.237e-01 1.473e+00 2.326e+00 2.607e+01
 7.802e-03 2.052e-02 1.341e-02 5.564e-03 2.086e-02 2.701e-03 1.450e+01
 2.846e+01 9.529e+01 6.483e+02 1.118e-01 1.646e-01 7.698e-02 4.195e-02
 2.687e-01 7.429e-02], Class Predicted = 1
 X346 = [1.617e+01 1.607e+01 1.063e+02 7.885e+02 9.880e-02 1.438e-01 6.651e-02
 5.397e-02 1.990e-01 6.572e-02 1.745e-01 4.890e-01 1.349e+00 1.491e+01
 4.510e-03 1.812e-02 1.951e-02 1.196e-02 1.934e-02 3.696e-03 1.697e+01
 1.914e+01 1.131e+02 8.615e+02 1.235e-01 2.550e-01 2.114e-01 1.251e-01
 3.153e-01 8.960e-02], Class Predicted = 1
 X347 = [1.849e+01 1.752e+01 1.213e+02 1.068e+03 1.012e-01 1.317e-01 1.491e-01
 9.183e-02 1.832e-01 6.697e-02 7.923e-01 1.045e+00 4.851e+00 9.577e+01
 7.974e-03 3.214e-02 4.435e-02 1.573e-02 1.617e-02 5.255e-03 2.275e+01
 2.288e+01 1.464e+02 1.600e+03 1.412e-01 3.089e-01 3.533e-01 1.663e-01
 2.510e-01 9.445e-02], Class Predicted = 0
 X348 = [1.340e+01 2.052e+01 8.864e+01 5.567e+02 1.106e-01 1.469e-01 1.445e-01
 8.172e-02 2.116e-01 7.325e-02 3.906e-01 9.306e-01 3.093e+00 3.367e+01
 5.414e-03 2.265e-02 3.452e-02 1.334e-02 1.705e-02 4.005e-03 1.641e+01
 2.966e+01 1.133e+02 8.444e+02 1.574e-01 3.856e-01 5.106e-01 2.051e-01
 3.585e-01 1.109e-01], Class Predicted = 0
 X349 = [1.894e+01 2.131e+01 1.236e+02 1.130e+03 9.009e-02 1.029e-01 1.080e-01
 7.951e-02 1.582e-01 5.461e-02 7.888e-01 7.975e-01 5.486e+00 9.605e+01
 4.444e-03 1.652e-02 2.269e-02 1.370e-02 1.386e-02 1.698e-03 2.486e+01
 2.658e+01 1.659e+02 1.866e+03 1.193e-01 2.336e-01 2.687e-01 1.789e-01
 2.551e-01 6.589e-02], Class Predicted = 0
 X350 = [1.286e+01 1.332e+01 8.282e+01 5.048e+02 1.134e-01 8.834e-02 3.800e-02
 3.400e-02 1.543e-01 6.476e-02 2.212e-01 1.042e+00 1.614e+00 1.657e+01
 5.910e-03 2.016e-02 1.902e-02 1.011e-02 1.202e-02 3.107e-03 1.404e+01
 2.108e+01 9.280e+01 5.995e+02 1.547e-01 2.231e-01 1.791e-01 1.155e-01
 2.382e-01 8.553e-02], Class Predicted = 1
 X351 = [1.125e+01 1.478e+01 7.138e+01 3.900e+02 8.306e-02 4.458e-02 9.737e-04
 2.941e-03 1.773e-01 6.081e-02 2.144e-01 9.961e-01 1.529e+00 1.507e+01
 5.617e-03 7.124e-03 9.737e-04 2.941e-03 1.700e-02 2.030e-03 1.276e+01
 2.206e+01 8.208e+01 4.927e+02 1.166e-01 9.794e-02 5.518e-03 1.667e-02
 2.815e-01 7.418e-02], Class Predicted = 1
 X352 = [1.166e+01 1.707e+01 7.370e+01 4.210e+02 7.561e-02 3.630e-02 8.306e-03
 1.162e-02 1.671e-01 5.731e-02 3.534e-01 6.724e-01 2.225e+00 2.603e+01
 6.583e-03 6.991e-03 5.949e-03 6.296e-03 2.216e-02 2.668e-03 1.328e+01
 1.974e+01 8.361e+01 5.425e+02 9.958e-02 6.476e-02 3.046e-02 4.262e-02
 2.731e-01 6.825e-02], Class Predicted = 1
 X353 = [1.184e+01 1.870e+01 7.793e+01 4.406e+02 1.109e-01 1.516e-01 1.218e-01
 5.182e-02 2.301e-01 7.799e-02 4.825e-01 1.030e+00 3.475e+00 4.100e+01
 5.551e-03 3.414e-02 4.205e-02 1.044e-02 2.273e-02 5.667e-03 1.682e+01
 2.812e+01 1.194e+02 8.887e+02 1.637e-01 5.775e-01 6.956e-01 1.546e-01
 4.761e-01 1.402e-01], Class Predicted = 0

X354 = [1.160e+01 1.284e+01 7.434e+01 4.126e+02 8.983e-02 7.525e-02 4.196e-02
 3.350e-02 1.620e-01 6.582e-02 2.315e-01 5.391e-01 1.475e+00 1.575e+01
 6.153e-03 1.330e-02 1.693e-02 6.884e-03 1.651e-02 2.551e-03 1.306e+01
 1.716e+01 8.296e+01 5.125e+02 1.431e-01 1.851e-01 1.922e-01 8.449e-02
 2.772e-01 8.756e-02], Class Predicted = 1
 X355 = [1.305e+01 1.931e+01 8.261e+01 5.272e+02 8.060e-02 3.789e-02 6.920e-04
 4.167e-03 1.819e-01 5.501e-02 4.040e-01 1.214e+00 2.595e+00 3.296e+01
 7.491e-03 8.593e-03 6.920e-04 4.167e-03 2.190e-02 2.990e-03 1.423e+01
 2.225e+01 9.024e+01 6.241e+02 1.021e-01 6.191e-02 1.845e-03 1.111e-02
 2.439e-01 6.289e-02], Class Predicted = 1
 X356 = [1.175e+01 2.018e+01 7.610e+01 4.198e+02 1.089e-01 1.141e-01 6.843e-02
 3.738e-02 1.993e-01 6.453e-02 5.018e-01 1.693e+00 3.926e+00 3.834e+01
 9.433e-03 2.405e-02 4.167e-02 1.152e-02 3.397e-02 5.061e-03 1.332e+01
 2.621e+01 8.891e+01 5.439e+02 1.358e-01 1.892e-01 1.956e-01 7.909e-02
 3.168e-01 7.987e-02], Class Predicted = 1
 X357 = [1.065e+01 2.522e+01 6.801e+01 3.470e+02 9.657e-02 7.234e-02 2.379e-02
 1.615e-02 1.897e-01 6.329e-02 2.497e-01 1.493e+00 1.497e+00 1.664e+01
 7.189e-03 1.035e-02 1.081e-02 6.245e-03 2.158e-02 2.619e-03 1.225e+01
 3.519e+01 7.798e+01 4.557e+02 1.499e-01 1.398e-01 1.125e-01 6.136e-02
 3.409e-01 8.147e-02], Class Predicted = 1
 X358 = [1.775e+01 2.803e+01 1.173e+02 9.816e+02 9.997e-02 1.314e-01 1.698e-01
 8.293e-02 1.713e-01 5.916e-02 3.897e-01 1.077e+00 2.873e+00 4.395e+01
 4.714e-03 2.015e-02 3.697e-02 1.110e-02 1.237e-02 2.556e-03 2.153e+01
 3.854e+01 1.454e+02 1.437e+03 1.401e-01 3.762e-01 6.399e-01 1.970e-01
 2.972e-01 9.075e-02], Class Predicted = 0
 X359 = [1.453e+01 1.934e+01 9.425e+01 6.597e+02 8.388e-02 7.800e-02 8.817e-02
 2.925e-02 1.473e-01 5.746e-02 2.535e-01 1.354e+00 1.994e+00 2.304e+01
 4.147e-03 2.048e-02 3.379e-02 8.848e-03 1.394e-02 2.327e-03 1.630e+01
 2.839e+01 1.081e+02 8.305e+02 1.089e-01 2.649e-01 3.779e-01 9.594e-02
 2.471e-01 7.463e-02], Class Predicted = 1
 X360 = [1.219e+01 1.329e+01 7.908e+01 4.558e+02 1.066e-01 9.509e-02 2.855e-02
 2.882e-02 1.880e-01 6.471e-02 2.005e-01 8.163e-01 1.973e+00 1.524e+01
 6.773e-03 2.456e-02 1.018e-02 8.094e-03 2.662e-02 4.143e-03 1.334e+01
 1.781e+01 9.138e+01 5.452e+02 1.427e-01 2.585e-01 9.915e-02 8.187e-02
 3.469e-01 9.241e-02], Class Predicted = 1
 X361 = [2.059e+01 2.124e+01 1.378e+02 1.320e+03 1.085e-01 1.644e-01 2.188e-01
 1.121e-01 1.848e-01 6.222e-02 5.904e-01 1.216e+00 4.206e+00 7.509e+01
 6.666e-03 2.791e-02 4.062e-02 1.479e-02 1.117e-02 3.727e-03 2.386e+01
 3.076e+01 1.632e+02 1.760e+03 1.464e-01 3.597e-01 5.179e-01 2.113e-01
 2.480e-01 8.999e-02], Class Predicted = 0
 X362 = [1.129e+01 1.304e+01 7.223e+01 3.880e+02 9.834e-02 7.608e-02 3.265e-02
 2.755e-02 1.769e-01 6.270e-02 1.904e-01 5.293e-01 1.164e+00 1.317e+01
 6.472e-03 1.122e-02 1.282e-02 8.849e-03 1.692e-02 2.817e-03 1.232e+01
 1.618e+01 7.827e+01 4.575e+02 1.358e-01 1.507e-01 1.275e-01 8.750e-02
 2.733e-01 8.022e-02], Class Predicted = 1
 X363 = [1.291e+01 1.633e+01 8.253e+01 5.164e+02 7.941e-02 5.366e-02 3.873e-02
 2.377e-02 1.829e-01 5.667e-02 1.942e-01 9.086e-01 1.493e+00 1.575e+01
 5.298e-03 1.587e-02 2.321e-02 8.420e-03 1.853e-02 2.152e-03 1.388e+01
 2.200e+01 9.081e+01 6.006e+02 1.097e-01 1.506e-01 1.764e-01 8.235e-02
 3.024e-01 6.949e-02], Class Predicted = 1
 X364 = [1.527e+01 1.291e+01 9.817e+01 7.255e+02 8.182e-02 6.230e-02 5.892e-02
 3.157e-02 1.359e-01 5.526e-02 2.134e-01 3.628e-01 1.525e+00 2.000e+01
 4.291e-03 1.236e-02 1.841e-02 7.373e-03 9.539e-03 1.656e-03 1.738e+01
 1.592e+01 1.137e+02 9.327e+02 1.222e-01 2.186e-01 2.962e-01 1.035e-01
 2.320e-01 7.474e-02], Class Predicted = 1
 X365 = [1.221e+01 1.802e+01 7.831e+01 4.584e+02 9.231e-02 7.175e-02 4.392e-02
 2.027e-02 1.695e-01 5.916e-02 2.527e-01 7.786e-01 1.874e+00 1.857e+01
 5.833e-03 1.388e-02 2.000e-02 7.087e-03 1.938e-02 1.960e-03 1.429e+01
 2.404e+01 9.385e+01 6.246e+02 1.368e-01 2.170e-01 2.413e-01 8.829e-02
 3.218e-01 7.470e-02], Class Predicted = 1
 X366 = [1.337e+01 1.639e+01 8.610e+01 5.535e+02 7.115e-02 7.325e-02 8.092e-02
 2.800e-02 1.422e-01 5.823e-02 1.639e-01 1.140e+00 1.223e+00 1.466e+01
 5.919e-03 3.270e-02 4.957e-02 1.038e-02 1.208e-02 4.076e-03 1.426e+01
 2.275e+01 9.199e+01 6.321e+02 1.025e-01 2.531e-01 3.308e-01 8.978e-02
 2.048e-01 7.628e-02], Class Predicted = 1
 X367 = [1.519e+01 1.321e+01 9.765e+01 7.118e+02 7.963e-02 6.934e-02 3.393e-02
 2.657e-02 1.721e-01 5.544e-02 1.783e-01 4.125e-01 1.338e+00 1.772e+01
 5.012e-03 1.485e-02 1.551e-02 9.155e-03 1.647e-02 1.767e-03 1.620e+01
 1.573e+01 1.045e+02 8.191e+02 1.126e-01 1.737e-01 1.362e-01 8.178e-02

2.487e-01 6.766e-02], Class Predicted = 1
 X368 = [1.094e+01 1.859e+01 7.039e+01 3.700e+02 1.004e-01 7.460e-02 4.944e-02
 2.932e-02 1.486e-01 6.615e-02 3.796e-01 1.743e+00 3.018e+00 2.578e+01
 9.519e-03 2.134e-02 1.990e-02 1.155e-02 2.079e-02 2.701e-03 1.240e+01
 2.558e+01 8.276e+01 4.724e+02 1.363e-01 1.644e-01 1.412e-01 7.887e-02
 2.251e-01 7.732e-02], Class Predicted = 1
 X369 = [1.300e+01 2.182e+01 8.750e+01 5.198e+02 1.273e-01 1.932e-01 1.859e-01
 9.353e-02 2.350e-01 7.389e-02 3.063e-01 1.002e+00 2.406e+00 2.432e+01
 5.731e-03 3.502e-02 3.553e-02 1.226e-02 2.143e-02 3.749e-03 1.549e+01
 3.073e+01 1.062e+02 7.393e+02 1.703e-01 5.401e-01 5.390e-01 2.060e-01
 4.378e-01 1.072e-01], Class Predicted = 0
 X370 = [1.953e+01 1.890e+01 1.295e+02 1.217e+03 1.150e-01 1.642e-01 2.197e-01
 1.062e-01 1.792e-01 6.552e-02 1.111e+00 1.161e+00 7.237e+00 1.330e+02
 6.056e-03 3.203e-02 5.638e-02 1.733e-02 1.884e-02 4.787e-03 2.593e+01
 2.624e+01 1.711e+02 2.053e+03 1.495e-01 4.116e-01 6.121e-01 1.980e-01
 2.968e-01 9.929e-02], Class Predicted = 0
 X371 = [1.464e+01 1.524e+01 9.577e+01 6.519e+02 1.132e-01 1.339e-01 9.966e-02
 7.064e-02 2.116e-01 6.346e-02 5.115e-01 7.372e-01 3.814e+00 4.276e+01
 5.508e-03 4.412e-02 4.436e-02 1.623e-02 2.427e-02 4.841e-03 1.634e+01
 1.824e+01 1.094e+02 8.036e+02 1.277e-01 3.089e-01 2.604e-01 1.397e-01
 3.151e-01 8.473e-02], Class Predicted = 1
 X372 = [9.847e+00 1.568e+01 6.300e+01 2.932e+02 9.492e-02 8.419e-02 2.330e-02
 2.416e-02 1.387e-01 6.891e-02 2.498e-01 1.216e+00 1.976e+00 1.524e+01
 8.732e-03 2.042e-02 1.062e-02 6.801e-03 1.824e-02 3.494e-03 1.124e+01
 2.299e+01 7.432e+01 3.765e+02 1.419e-01 2.243e-01 8.434e-02 6.528e-02
 2.502e-01 9.209e-02], Class Predicted = 1
 X373 = [1.026e+01 1.471e+01 6.620e+01 3.216e+02 9.882e-02 9.159e-02 3.581e-02
 2.037e-02 1.633e-01 7.005e-02 3.380e-01 2.509e+00 2.394e+00 1.933e+01
 1.736e-02 4.671e-02 2.611e-02 1.296e-02 3.675e-02 6.758e-03 1.088e+01
 1.948e+01 7.089e+01 3.571e+02 1.360e-01 1.636e-01 7.162e-02 4.074e-02
 2.434e-01 8.488e-02], Class Predicted = 1
 X374 = [1.236e+01 1.854e+01 7.901e+01 4.667e+02 8.477e-02 6.815e-02 2.643e-02
 1.921e-02 1.602e-01 6.066e-02 1.199e-01 8.944e-01 8.484e-01 9.227e+00
 3.457e-03 1.047e-02 1.167e-02 5.558e-03 1.251e-02 1.356e-03 1.329e+01
 2.749e+01 8.556e+01 5.441e+02 1.184e-01 1.963e-01 1.937e-01 8.442e-02
 2.983e-01 7.185e-02], Class Predicted = 1
 X375 = [1.768e+01 2.074e+01 1.174e+02 9.637e+02 1.115e-01 1.665e-01 1.855e-01
 1.054e-01 1.971e-01 6.166e-02 8.113e-01 1.400e+00 5.540e+00 9.391e+01
 9.037e-03 4.954e-02 5.206e-02 1.841e-02 1.778e-02 4.968e-03 2.047e+01
 2.511e+01 1.329e+02 1.302e+03 1.418e-01 3.498e-01 3.583e-01 1.515e-01
 2.463e-01 7.738e-02], Class Predicted = 0
 X376 = [1.613e+01 2.068e+01 1.081e+02 7.988e+02 1.170e-01 2.022e-01 1.722e-01
 1.028e-01 2.164e-01 7.356e-02 5.692e-01 1.073e+00 3.854e+00 5.418e+01
 7.026e-03 2.501e-02 3.188e-02 1.297e-02 1.689e-02 4.142e-03 2.096e+01
 3.148e+01 1.368e+02 1.315e+03 1.789e-01 4.233e-01 4.784e-01 2.073e-01
 3.706e-01 1.142e-01], Class Predicted = 0
 X377 = [1.719e+01 2.207e+01 1.116e+02 9.283e+02 9.726e-02 8.995e-02 9.061e-02
 6.527e-02 1.867e-01 5.580e-02 4.203e-01 7.383e-01 2.819e+00 4.542e+01
 4.493e-03 1.206e-02 2.048e-02 9.875e-03 1.144e-02 1.575e-03 2.158e+01
 2.933e+01 1.405e+02 1.436e+03 1.558e-01 2.567e-01 3.889e-01 1.984e-01
 3.216e-01 7.570e-02], Class Predicted = 0
 X378 = [1.411e+01 1.288e+01 9.003e+01 6.165e+02 9.309e-02 5.306e-02 1.765e-02
 2.733e-02 1.373e-01 5.700e-02 2.571e-01 1.081e+00 1.558e+00 2.392e+01
 6.692e-03 1.132e-02 5.717e-03 6.627e-03 1.416e-02 2.476e-03 1.553e+01
 1.800e+01 9.840e+01 7.499e+02 1.281e-01 1.109e-01 5.307e-02 5.890e-02
 2.100e-01 7.083e-02], Class Predicted = 1
 X379 = [1.060e+01 1.895e+01 6.928e+01 3.464e+02 9.688e-02 1.147e-01 6.387e-02
 2.642e-02 1.922e-01 6.491e-02 4.505e-01 1.197e+00 3.430e+00 2.710e+01
 7.470e-03 3.581e-02 3.354e-02 1.365e-02 3.504e-02 3.318e-03 1.188e+01
 2.294e+01 7.828e+01 4.248e+02 1.213e-01 2.515e-01 1.916e-01 7.926e-02
 2.940e-01 7.587e-02], Class Predicted = 1
 X380 = [1.747e+01 2.468e+01 1.161e+02 9.846e+02 1.049e-01 1.603e-01 2.159e-01
 1.043e-01 1.538e-01 6.365e-02 1.088e+00 1.410e+00 7.337e+00 1.223e+02
 6.174e-03 3.634e-02 4.644e-02 1.569e-02 1.145e-02 5.120e-03 2.314e+01
 3.233e+01 1.553e+02 1.660e+03 1.376e-01 3.830e-01 4.890e-01 1.721e-01
 2.160e-01 9.300e-02], Class Predicted = 0
 X381 = [1.200e+01 2.823e+01 7.677e+01 4.425e+02 8.437e-02 6.450e-02 4.055e-02
 1.945e-02 1.615e-01 6.104e-02 1.912e-01 1.705e+00 1.516e+00 1.386e+01
 7.334e-03 2.589e-02 2.941e-02 9.166e-03 1.745e-02 4.302e-03 1.309e+01

3.788e+01 8.507e+01 5.237e+02 1.208e-01 1.856e-01 1.811e-01 7.116e-02
 2.447e-01 8.194e-02], Class Predicted = 1
 X382 = [1.167e+01 2.002e+01 7.521e+01 4.162e+02 1.016e-01 9.453e-02 4.200e-02
 2.157e-02 1.859e-01 6.461e-02 2.067e-01 8.745e-01 1.393e+00 1.534e+01
 5.251e-03 1.727e-02 1.840e-02 5.298e-03 1.449e-02 2.671e-03 1.335e+01
 2.881e+01 8.700e+01 5.506e+02 1.550e-01 2.964e-01 2.758e-01 8.120e-02
 3.206e-01 8.950e-02], Class Predicted = 1
 X383 = [1.272e+01 1.378e+01 8.178e+01 4.921e+02 9.667e-02 8.393e-02 1.288e-02
 1.924e-02 1.638e-01 6.100e-02 1.807e-01 6.931e-01 1.340e+00 1.338e+01
 6.064e-03 1.180e-02 6.564e-03 7.978e-03 1.374e-02 1.392e-03 1.350e+01
 1.748e+01 8.854e+01 5.537e+02 1.298e-01 1.472e-01 5.233e-02 6.343e-02
 2.369e-01 6.922e-02], Class Predicted = 1
 X384 = [1.277e+01 2.247e+01 8.172e+01 5.063e+02 9.055e-02 5.761e-02 4.711e-02
 2.704e-02 1.585e-01 6.065e-02 2.367e-01 1.380e+00 1.457e+00 1.987e+01
 7.499e-03 1.202e-02 2.332e-02 8.920e-03 1.647e-02 2.629e-03 1.449e+01
 3.337e+01 9.204e+01 6.536e+02 1.419e-01 1.523e-01 2.177e-01 9.331e-02
 2.829e-01 8.067e-02], Class Predicted = 1
 X385 = [1.127e+01 1.296e+01 7.316e+01 3.863e+02 1.237e-01 1.111e-01 7.900e-02
 5.550e-02 2.018e-01 6.914e-02 2.562e-01 9.858e-01 1.809e+00 1.604e+01
 6.635e-03 1.777e-02 2.101e-02 1.164e-02 2.108e-02 3.721e-03 1.284e+01
 2.053e+01 8.493e+01 4.761e+02 1.610e-01 2.429e-01 2.247e-01 1.318e-01
 3.343e-01 9.215e-02], Class Predicted = 1
 X386 = [1.320e+01 1.743e+01 8.413e+01 5.416e+02 7.215e-02 4.524e-02 4.336e-02
 1.105e-02 1.487e-01 5.635e-02 1.630e-01 1.601e+00 8.730e-01 1.356e+01
 6.261e-03 1.569e-02 3.079e-02 5.383e-03 1.962e-02 2.250e-03 1.394e+01
 2.782e+01 8.828e+01 6.020e+02 1.101e-01 1.508e-01 2.298e-01 4.970e-02
 2.767e-01 7.198e-02], Class Predicted = 1
 X387 = [9.876e+00 1.940e+01 6.395e+01 2.983e+02 1.005e-01 9.697e-02 6.154e-02
 3.029e-02 1.945e-01 6.322e-02 1.803e-01 1.222e+00 1.528e+00 1.177e+01
 9.058e-03 2.196e-02 3.029e-02 1.112e-02 1.609e-02 3.570e-03 1.076e+01
 2.683e+01 7.222e+01 3.612e+02 1.559e-01 2.302e-01 2.644e-01 9.749e-02
 2.622e-01 8.490e-02], Class Predicted = 1
 X388 = [1.546e+01 1.189e+01 1.025e+02 7.369e+02 1.257e-01 1.555e-01 2.032e-01
 1.097e-01 1.966e-01 7.069e-02 4.209e-01 6.583e-01 2.805e+00 4.464e+01
 5.393e-03 2.321e-02 4.303e-02 1.320e-02 1.792e-02 4.168e-03 1.879e+01
 1.704e+01 1.250e+02 1.102e+03 1.531e-01 3.583e-01 5.830e-01 1.827e-01
 3.216e-01 1.010e-01], Class Predicted = 0
 X389 = [2.321e+01 2.697e+01 1.535e+02 1.670e+03 9.509e-02 1.682e-01 1.950e-01
 1.237e-01 1.909e-01 6.309e-02 1.058e+00 9.635e-01 7.247e+00 1.558e+02
 6.428e-03 2.863e-02 4.497e-02 1.716e-02 1.590e-02 3.053e-03 3.101e+01
 3.451e+01 2.060e+02 2.944e+03 1.481e-01 4.126e-01 5.820e-01 2.593e-01
 3.103e-01 8.677e-02], Class Predicted = 0
 X390 = [1.305e+01 1.859e+01 8.509e+01 5.120e+02 1.082e-01 1.304e-01 9.603e-02
 5.603e-02 2.035e-01 6.501e-02 3.106e-01 1.510e+00 2.590e+00 2.157e+01
 7.807e-03 3.932e-02 5.112e-02 1.876e-02 2.860e-02 5.715e-03 1.419e+01
 2.485e+01 9.422e+01 5.912e+02 1.343e-01 2.658e-01 2.573e-01 1.258e-01
 3.113e-01 8.317e-02], Class Predicted = 1
 X391 = [1.528e+01 2.241e+01 9.892e+01 7.106e+02 9.057e-02 1.052e-01 5.375e-02
 3.263e-02 1.727e-01 6.317e-02 2.054e-01 4.956e-01 1.344e+00 1.953e+01
 3.290e-03 1.395e-02 1.774e-02 6.009e-03 1.172e-02 2.575e-03 1.780e+01
 2.803e+01 1.138e+02 9.731e+02 1.301e-01 3.299e-01 3.630e-01 1.226e-01
 3.175e-01 9.772e-02], Class Predicted = 0
 X392 = [1.150e+01 1.845e+01 7.328e+01 4.074e+02 9.345e-02 5.991e-02 2.638e-02
 2.069e-02 1.834e-01 5.934e-02 3.927e-01 8.429e-01 2.684e+00 2.699e+01
 6.380e-03 1.065e-02 1.245e-02 9.175e-03 2.292e-02 1.461e-03 1.297e+01
 2.246e+01 8.312e+01 5.089e+02 1.183e-01 1.049e-01 8.105e-02 6.544e-02
 2.740e-01 6.487e-02], Class Predicted = 1
 X393 = [1.660e+01 2.808e+01 1.083e+02 8.581e+02 8.455e-02 1.023e-01 9.251e-02
 5.302e-02 1.590e-01 5.648e-02 4.564e-01 1.075e+00 3.425e+00 4.855e+01
 5.903e-03 3.731e-02 4.730e-02 1.557e-02 1.318e-02 3.892e-03 1.898e+01
 3.412e+01 1.267e+02 1.124e+03 1.139e-01 3.094e-01 3.403e-01 1.418e-01
 2.218e-01 7.820e-02], Class Predicted = 0
 X394 = [1.346e+01 1.875e+01 8.744e+01 5.511e+02 1.075e-01 1.138e-01 4.201e-02
 3.152e-02 1.723e-01 6.317e-02 1.998e-01 6.068e-01 1.443e+00 1.607e+01
 4.413e-03 1.443e-02 1.509e-02 7.369e-03 1.354e-02 1.787e-03 1.535e+01
 2.516e+01 1.019e+02 7.198e+02 1.624e-01 3.124e-01 2.654e-01 1.427e-01
 3.518e-01 8.665e-02], Class Predicted = 1
 X395 = [1.979e+01 2.512e+01 1.304e+02 1.192e+03 1.015e-01 1.589e-01 2.545e-01
 1.149e-01 2.202e-01 6.113e-02 4.953e-01 1.199e+00 2.765e+00 6.333e+01

5.033e-03 3.179e-02 4.755e-02 1.043e-02 1.578e-02 3.224e-03 2.263e+01
 3.358e+01 1.487e+02 1.589e+03 1.275e-01 3.861e-01 5.673e-01 1.732e-01
 3.305e-01 8.465e-02], Class Predicted = 0
 X396 = [1.104e+01 1.493e+01 7.067e+01 3.727e+02 7.987e-02 7.079e-02 3.546e-02
 2.074e-02 2.003e-01 6.246e-02 1.642e-01 1.031e+00 1.281e+00 1.168e+01
 5.296e-03 1.903e-02 1.723e-02 6.960e-03 1.880e-02 1.941e-03 1.209e+01
 2.083e+01 7.973e+01 4.471e+02 1.095e-01 1.982e-01 1.553e-01 6.754e-02
 3.202e-01 7.287e-02], Class Predicted = 1
 X397 = [1.825e+01 1.998e+01 1.196e+02 1.040e+03 9.463e-02 1.090e-01 1.127e-01
 7.400e-02 1.794e-01 5.742e-02 4.467e-01 7.732e-01 3.180e+00 5.391e+01
 4.314e-03 1.382e-02 2.254e-02 1.039e-02 1.369e-02 2.179e-03 2.288e+01
 2.766e+01 1.532e+02 1.606e+03 1.442e-01 2.576e-01 3.784e-01 1.932e-01
 3.063e-01 8.368e-02], Class Predicted = 0
 X398 = [2.522e+01 2.491e+01 1.715e+02 1.878e+03 1.063e-01 2.665e-01 3.339e-01
 1.845e-01 1.829e-01 6.782e-02 8.973e-01 1.474e+00 7.382e+00 1.200e+02
 8.166e-03 5.693e-02 5.730e-02 2.030e-02 1.065e-02 5.893e-03 3.000e+01
 3.362e+01 2.117e+02 2.562e+03 1.573e-01 6.076e-01 6.476e-01 2.867e-01
 2.355e-01 1.051e-01], Class Predicted = 0
 X399 = [1.151e+01 2.393e+01 7.452e+01 4.035e+02 9.261e-02 1.021e-01 1.112e-01
 4.105e-02 1.388e-01 6.570e-02 2.388e-01 2.904e+00 1.936e+00 1.697e+01
 8.200e-03 2.982e-02 5.738e-02 1.267e-02 1.488e-02 4.738e-03 1.248e+01
 3.716e+01 8.228e+01 4.742e+02 1.298e-01 2.517e-01 3.630e-01 9.653e-02
 2.112e-01 8.732e-02], Class Predicted = 1
 X400 = [8.597e+00 1.860e+01 5.409e+01 2.212e+02 1.074e-01 5.847e-02 0.000e+00
 0.000e+00 2.163e-01 7.359e-02 3.368e-01 2.777e+00 2.222e+00 1.781e+01
 2.075e-02 1.403e-02 0.000e+00 0.000e+00 6.146e-02 6.820e-03 8.952e+00
 2.244e+01 5.665e+01 2.401e+02 1.347e-01 7.767e-02 0.000e+00 0.000e+00
 3.142e-01 8.116e-02], Class Predicted = 1
 X401 = [6.981e+00 1.343e+01 4.379e+01 1.435e+02 1.170e-01 7.568e-02 0.000e+00
 0.000e+00 1.930e-01 7.818e-02 2.241e-01 1.508e+00 1.553e+00 9.833e+00
 1.019e-02 1.084e-02 0.000e+00 0.000e+00 2.659e-02 4.100e-03 7.930e+00
 1.954e+01 5.041e+01 1.852e+02 1.584e-01 1.202e-01 0.000e+00 0.000e+00
 2.932e-01 9.382e-02], Class Predicted = 1
 X402 = [1.474e+01 2.542e+01 9.470e+01 6.686e+02 8.275e-02 7.214e-02 4.105e-02
 3.027e-02 1.840e-01 5.680e-02 3.031e-01 1.385e+00 2.177e+00 2.741e+01
 4.775e-03 1.172e-02 1.947e-02 1.269e-02 1.870e-02 2.626e-03 1.651e+01
 3.229e+01 1.074e+02 8.264e+02 1.060e-01 1.376e-01 1.611e-01 1.095e-01
 2.722e-01 6.956e-02], Class Predicted = 1
 X403 = [1.566e+01 2.320e+01 1.102e+02 7.735e+02 1.109e-01 3.114e-01 3.176e-01
 1.377e-01 2.495e-01 8.104e-02 1.292e+00 2.454e+00 1.012e+01 1.385e+02
 1.236e-02 5.995e-02 8.232e-02 3.024e-02 2.337e-02 6.042e-03 1.985e+01
 3.164e+01 1.437e+02 1.226e+03 1.504e-01 5.172e-01 6.181e-01 2.462e-01
 3.277e-01 1.019e-01], Class Predicted = 0
 X404 = [2.329e+01 2.667e+01 1.589e+02 1.685e+03 1.141e-01 2.084e-01 3.523e-01
 1.620e-01 2.200e-01 6.229e-02 5.539e-01 1.560e+00 4.667e+00 8.316e+01
 9.327e-03 5.121e-02 8.958e-02 2.465e-02 2.175e-02 5.195e-03 2.512e+01
 3.268e+01 1.770e+02 1.986e+03 1.536e-01 4.167e-01 7.892e-01 2.733e-01
 3.198e-01 8.762e-02], Class Predicted = 0
 X405 = [1.320e+01 1.582e+01 8.407e+01 5.373e+02 8.511e-02 5.251e-02 1.461e-03
 3.261e-03 1.632e-01 5.894e-02 1.903e-01 5.735e-01 1.204e+00 1.550e+01
 3.632e-03 7.861e-03 1.128e-03 2.386e-03 1.344e-02 2.585e-03 1.441e+01
 2.045e+01 9.200e+01 6.369e+02 1.128e-01 1.346e-01 1.120e-02 2.500e-02
 2.651e-01 8.385e-02], Class Predicted = 1
 X406 = [1.057e+01 1.832e+01 6.682e+01 3.409e+02 8.142e-02 4.462e-02 1.993e-02
 1.111e-02 2.372e-01 5.768e-02 1.818e-01 2.542e+00 1.277e+00 1.312e+01
 1.072e-02 1.331e-02 1.993e-02 1.111e-02 1.717e-02 4.492e-03 1.094e+01
 2.331e+01 6.935e+01 3.663e+02 9.794e-02 6.542e-02 3.986e-02 2.222e-02
 2.699e-01 6.736e-02], Class Predicted = 1
 X407 = [9.268e+00 1.287e+01 6.149e+01 2.487e+02 1.634e-01 2.239e-01 9.730e-02
 5.252e-02 2.378e-01 9.502e-02 4.076e-01 1.093e+00 3.014e+00 2.004e+01
 9.783e-03 4.542e-02 3.483e-02 2.188e-02 2.542e-02 1.045e-02 1.028e+01
 1.638e+01 6.905e+01 3.002e+02 1.902e-01 3.441e-01 2.099e-01 1.025e-01
 3.038e-01 1.252e-01], Class Predicted = 1
 X408 = [1.973e+01 1.982e+01 1.307e+02 1.206e+03 1.062e-01 1.849e-01 2.417e-01
 9.740e-02 1.733e-01 6.697e-02 7.661e-01 7.800e-01 4.115e+00 9.281e+01
 8.482e-03 5.057e-02 6.800e-02 1.971e-02 1.467e-02 7.259e-03 2.528e+01
 2.559e+01 1.598e+02 1.933e+03 1.710e-01 5.955e-01 8.489e-01 2.507e-01
 2.749e-01 1.297e-01], Class Predicted = 0
 X409 = [1.434e+01 1.347e+01 9.251e+01 6.412e+02 9.906e-02 7.624e-02 5.724e-02

4.603e-02 2.075e-01 5.448e-02 5.220e-01 8.121e-01 3.763e+00 4.829e+01
 7.089e-03 1.428e-02 2.360e-02 1.286e-02 2.266e-02 1.463e-03 1.677e+01
 1.690e+01 1.104e+02 8.732e+02 1.297e-01 1.525e-01 1.632e-01 1.087e-01
 3.062e-01 6.072e-02], Class Predicted = 1
 X410 = [1.742e+01 2.556e+01 1.145e+02 9.480e+02 1.006e-01 1.146e-01 1.682e-01
 6.597e-02 1.308e-01 5.866e-02 5.296e-01 1.667e+00 3.767e+00 5.853e+01
 3.113e-02 8.555e-02 1.438e-01 3.927e-02 2.175e-02 1.256e-02 1.807e+01
 2.807e+01 1.204e+02 1.021e+03 1.243e-01 1.793e-01 2.803e-01 1.099e-01
 1.603e-01 6.818e-02], Class Predicted = 0
 X411 = [1.386e+01 1.693e+01 9.096e+01 5.789e+02 1.026e-01 1.517e-01 9.901e-02
 5.602e-02 2.106e-01 6.916e-02 2.563e-01 1.194e+00 1.933e+00 2.269e+01
 5.960e-03 3.438e-02 3.909e-02 1.435e-02 1.939e-02 4.560e-03 1.575e+01
 2.693e+01 1.044e+02 7.501e+02 1.460e-01 4.370e-01 4.636e-01 1.654e-01
 3.630e-01 1.059e-01], Class Predicted = 1
 X412 = [1.104e+01 1.683e+01 7.092e+01 3.732e+02 1.077e-01 7.804e-02 3.046e-02
 2.480e-02 1.714e-01 6.340e-02 1.967e-01 1.387e+00 1.342e+00 1.354e+01
 5.158e-03 9.355e-03 1.056e-02 7.483e-03 1.718e-02 2.198e-03 1.241e+01
 2.644e+01 7.993e+01 4.714e+02 1.369e-01 1.482e-01 1.067e-01 7.431e-02
 2.998e-01 7.881e-02], Class Predicted = 1
 X413 = [1.328e+01 2.028e+01 8.732e+01 5.452e+02 1.041e-01 1.436e-01 9.847e-02
 6.158e-02 1.974e-01 6.782e-02 3.704e-01 8.249e-01 2.427e+00 3.133e+01
 5.072e-03 2.147e-02 2.185e-02 9.560e-03 1.719e-02 3.317e-03 1.738e+01
 2.800e+01 1.131e+02 9.072e+02 1.530e-01 3.724e-01 3.664e-01 1.492e-01
 3.739e-01 1.027e-01], Class Predicted = 1
 X414 = [1.206e+01 1.274e+01 7.684e+01 4.486e+02 9.311e-02 5.241e-02 1.972e-02
 1.963e-02 1.590e-01 5.907e-02 1.822e-01 7.285e-01 1.171e+00 1.325e+01
 5.528e-03 9.789e-03 8.342e-03 6.273e-03 1.465e-02 2.530e-03 1.314e+01
 1.841e+01 8.408e+01 5.328e+02 1.275e-01 1.232e-01 8.636e-02 7.025e-02
 2.514e-01 7.898e-02], Class Predicted = 1
 X415 = [1.005e+01 1.753e+01 6.441e+01 3.108e+02 1.007e-01 7.326e-02 2.511e-02
 1.775e-02 1.890e-01 6.331e-02 2.619e-01 2.015e+00 1.778e+00 1.685e+01
 7.803e-03 1.449e-02 1.690e-02 8.043e-03 2.100e-02 2.778e-03 1.116e+01
 2.684e+01 7.198e+01 3.840e+02 1.402e-01 1.402e-01 1.055e-01 6.499e-02
 2.894e-01 7.664e-02], Class Predicted = 1
 X416 = [9.667e+00 1.849e+01 6.149e+01 2.891e+02 8.946e-02 6.258e-02 2.948e-02
 1.514e-02 2.238e-01 6.413e-02 3.776e-01 1.350e+00 2.569e+00 2.273e+01
 7.501e-03 1.989e-02 2.714e-02 9.883e-03 1.960e-02 3.913e-03 1.114e+01
 2.562e+01 7.088e+01 3.852e+02 1.234e-01 1.542e-01 1.277e-01 6.560e-02
 3.174e-01 8.524e-02], Class Predicted = 1
 X417 = [9.742e+00 1.567e+01 6.150e+01 2.899e+02 9.037e-02 4.689e-02 1.103e-02
 1.407e-02 2.081e-01 6.312e-02 2.684e-01 1.409e+00 1.750e+00 1.639e+01
 1.380e-02 1.067e-02 8.347e-03 9.472e-03 1.798e-02 4.261e-03 1.075e+01
 2.088e+01 6.809e+01 3.552e+02 1.467e-01 9.370e-02 4.043e-02 5.159e-02
 2.841e-01 8.175e-02], Class Predicted = 1
 X418 = [1.008e+01 1.511e+01 6.376e+01 3.175e+02 9.267e-02 4.695e-02 1.597e-03
 2.404e-03 1.703e-01 6.048e-02 4.245e-01 1.268e+00 2.680e+00 2.643e+01
 1.439e-02 1.200e-02 1.597e-03 2.404e-03 2.538e-02 3.470e-03 1.187e+01
 2.118e+01 7.539e+01 4.370e+02 1.521e-01 1.019e-01 6.920e-03 1.042e-02
 2.933e-01 7.697e-02], Class Predicted = 1
 X419 = [2.031e+01 2.706e+01 1.329e+02 1.288e+03 1.000e-01 1.088e-01 1.519e-01
 9.333e-02 1.814e-01 5.572e-02 3.977e-01 1.033e+00 2.587e+00 5.234e+01
 5.043e-03 1.578e-02 2.117e-02 8.185e-03 1.282e-02 1.892e-03 2.433e+01
 3.916e+01 1.623e+02 1.844e+03 1.522e-01 2.945e-01 3.788e-01 1.697e-01
 3.151e-01 7.999e-02], Class Predicted = 0
 X420 = [1.242e+01 1.504e+01 7.861e+01 4.765e+02 7.926e-02 3.393e-02 1.053e-02
 1.108e-02 1.546e-01 5.754e-02 1.153e-01 6.745e-01 7.570e-01 9.006e+00
 3.265e-03 4.930e-03 6.493e-03 3.762e-03 1.720e-02 1.360e-03 1.320e+01
 2.037e+01 8.385e+01 5.434e+02 1.037e-01 7.776e-02 6.243e-02 4.052e-02
 2.901e-01 6.783e-02], Class Predicted = 1
 X421 = [1.327e+01 1.476e+01 8.474e+01 5.517e+02 7.355e-02 5.055e-02 3.261e-02
 2.648e-02 1.386e-01 5.318e-02 4.057e-01 1.153e+00 2.701e+00 3.635e+01
 4.481e-03 1.038e-02 1.358e-02 1.082e-02 1.069e-02 1.435e-03 1.636e+01
 2.235e+01 1.045e+02 8.306e+02 1.006e-01 1.238e-01 1.350e-01 1.001e-01
 2.027e-01 6.206e-02], Class Predicted = 1
 X422 = [1.254e+01 1.807e+01 7.942e+01 4.919e+02 7.436e-02 2.650e-02 1.194e-03
 5.449e-03 1.528e-01 5.185e-02 3.511e-01 9.527e-01 2.329e+00 2.830e+01
 5.783e-03 4.693e-03 7.929e-04 3.617e-03 2.043e-02 1.058e-03 1.372e+01
 2.098e+01 8.682e+01 5.857e+02 9.293e-02 4.327e-02 3.581e-03 1.635e-02
 2.233e-01 5.521e-02], Class Predicted = 1

X423 = [1.549e+01 1.997e+01 1.024e+02 7.447e+02 1.160e-01 1.562e-01 1.891e-01
 9.113e-02 1.929e-01 6.744e-02 6.470e-01 1.331e+00 4.675e+00 6.691e+01
 7.269e-03 2.928e-02 4.972e-02 1.639e-02 1.852e-02 4.232e-03 2.120e+01
 2.941e+01 1.421e+02 1.359e+03 1.681e-01 3.913e-01 5.553e-01 2.121e-01
 3.187e-01 1.019e-01], Class Predicted = 0
 X424 = [1.665e+01 2.138e+01 1.100e+02 9.046e+02 1.121e-01 1.457e-01 1.525e-01
 9.170e-02 1.995e-01 6.330e-02 8.068e-01 9.017e-01 5.455e+00 1.026e+02
 6.048e-03 1.882e-02 2.741e-02 1.130e-02 1.468e-02 2.801e-03 2.646e+01
 3.156e+01 1.770e+02 2.215e+03 1.805e-01 3.578e-01 4.695e-01 2.095e-01
 3.613e-01 9.564e-02], Class Predicted = 0
 X425 = [1.170e+01 1.911e+01 7.433e+01 4.187e+02 8.814e-02 5.253e-02 1.583e-02
 1.148e-02 1.936e-01 6.128e-02 1.601e-01 1.430e+00 1.109e+00 1.128e+01
 6.064e-03 9.110e-03 1.042e-02 7.638e-03 2.349e-02 1.661e-03 1.261e+01
 2.655e+01 8.092e+01 4.831e+02 1.223e-01 1.087e-01 7.915e-02 5.741e-02
 3.487e-01 6.958e-02], Class Predicted = 1
 X426 = [1.805e+01 1.615e+01 1.202e+02 1.006e+03 1.065e-01 2.146e-01 1.684e-01
 1.080e-01 2.152e-01 6.673e-02 9.806e-01 5.505e-01 6.311e+00 1.348e+02
 7.940e-03 5.839e-02 4.658e-02 2.070e-02 2.591e-02 7.054e-03 2.239e+01
 1.891e+01 1.501e+02 1.610e+03 1.478e-01 5.634e-01 3.786e-01 2.102e-01
 3.751e-01 1.108e-01], Class Predicted = 0
 X427 = [1.193e+01 1.091e+01 7.614e+01 4.427e+02 8.872e-02 5.242e-02 2.606e-02
 1.796e-02 1.601e-01 5.541e-02 2.522e-01 1.045e+00 1.649e+00 1.895e+01
 6.175e-03 1.204e-02 1.376e-02 5.832e-03 1.096e-02 1.857e-03 1.380e+01
 2.014e+01 8.764e+01 5.895e+02 1.374e-01 1.575e-01 1.514e-01 6.876e-02
 2.460e-01 7.262e-02], Class Predicted = 1
 X428 = [1.206e+01 1.890e+01 7.666e+01 4.453e+02 8.386e-02 5.794e-02 7.510e-03
 8.488e-03 1.555e-01 6.048e-02 2.430e-01 1.152e+00 1.559e+00 1.802e+01
 7.180e-03 1.096e-02 5.832e-03 5.495e-03 1.982e-02 2.754e-03 1.364e+01
 2.706e+01 8.654e+01 5.626e+02 1.289e-01 1.352e-01 4.506e-02 5.093e-02
 2.880e-01 8.083e-02], Class Predicted = 1
 X429 = [8.219e+00 2.070e+01 5.327e+01 2.039e+02 9.405e-02 1.305e-01 1.321e-01
 2.168e-02 2.222e-01 8.261e-02 1.935e-01 1.962e+00 1.243e+00 1.021e+01
 1.243e-02 5.416e-02 7.753e-02 1.022e-02 2.309e-02 1.178e-02 9.092e+00
 2.972e+01 5.808e+01 2.498e+02 1.630e-01 4.310e-01 5.381e-01 7.879e-02
 3.322e-01 1.486e-01], Class Predicted = 1
 X430 = [1.822e+01 1.870e+01 1.203e+02 1.033e+03 1.148e-01 1.485e-01 1.772e-01
 1.060e-01 2.092e-01 6.310e-02 8.337e-01 1.593e+00 4.877e+00 9.881e+01
 3.899e-03 2.961e-02 2.817e-02 9.222e-03 2.674e-02 5.126e-03 2.060e+01
 2.413e+01 1.351e+02 1.321e+03 1.280e-01 2.297e-01 2.623e-01 1.325e-01
 3.021e-01 7.987e-02], Class Predicted = 0
 X431 = [1.258e+01 1.840e+01 7.983e+01 4.890e+02 8.393e-02 4.216e-02 1.860e-03
 2.924e-03 1.697e-01 5.855e-02 2.719e-01 1.350e+00 1.721e+00 2.245e+01
 6.383e-03 8.008e-03 1.860e-03 2.924e-03 2.571e-02 2.015e-03 1.350e+01
 2.308e+01 8.556e+01 5.641e+02 1.038e-01 6.624e-02 5.579e-03 8.772e-03
 2.505e-01 6.431e-02], Class Predicted = 1
 X432 = [1.108e+01 1.471e+01 7.021e+01 3.727e+02 1.006e-01 5.743e-02 2.363e-02
 2.583e-02 1.566e-01 6.669e-02 2.073e-01 1.805e+00 1.377e+00 1.908e+01
 1.496e-02 2.121e-02 1.453e-02 1.583e-02 3.082e-02 4.785e-03 1.135e+01
 1.682e+01 7.201e+01 3.965e+02 1.216e-01 8.240e-02 3.938e-02 4.306e-02
 1.902e-01 7.313e-02], Class Predicted = 1
 X433 = [1.246e+01 2.404e+01 8.397e+01 4.759e+02 1.186e-01 2.396e-01 2.273e-01
 8.543e-02 2.030e-01 8.243e-02 2.976e-01 1.599e+00 2.039e+00 2.394e+01
 7.149e-03 7.217e-02 7.743e-02 1.432e-02 1.789e-02 1.008e-02 1.509e+01
 4.068e+01 9.765e+01 7.114e+02 1.853e-01 1.058e+00 1.105e+00 2.210e-01
 4.366e-01 2.075e-01], Class Predicted = 0
 X434 = [1.757e+01 1.505e+01 1.150e+02 9.551e+02 9.847e-02 1.157e-01 9.875e-02
 7.953e-02 1.739e-01 6.149e-02 6.003e-01 8.225e-01 4.655e+00 6.110e+01
 5.627e-03 3.033e-02 3.407e-02 1.354e-02 1.925e-02 3.742e-03 2.001e+01
 1.952e+01 1.349e+02 1.227e+03 1.255e-01 2.812e-01 2.489e-01 1.456e-01
 2.756e-01 7.919e-02], Class Predicted = 0
 X435 = [1.300e+01 2.078e+01 8.351e+01 5.194e+02 1.135e-01 7.589e-02 3.136e-02
 2.645e-02 2.540e-01 6.087e-02 4.202e-01 1.322e+00 2.873e+00 3.478e+01
 7.017e-03 1.142e-02 1.949e-02 1.153e-02 2.951e-02 1.533e-03 1.416e+01
 2.411e+01 9.082e+01 6.167e+02 1.297e-01 1.105e-01 8.112e-02 6.296e-02
 3.196e-01 6.435e-02], Class Predicted = 1
 X436 = [1.141e+01 1.492e+01 7.353e+01 4.020e+02 9.059e-02 8.155e-02 6.181e-02
 2.361e-02 1.167e-01 6.217e-02 3.344e-01 1.108e+00 1.902e+00 2.277e+01
 7.356e-03 3.728e-02 5.915e-02 1.712e-02 2.165e-02 4.784e-03 1.237e+01
 1.770e+01 7.912e+01 4.672e+02 1.121e-01 1.610e-01 1.648e-01 6.296e-02

1.811e-01 7.427e-02], Class Predicted = 1
 X437 = [1.234e+01 1.227e+01 7.894e+01 4.685e+02 9.003e-02 6.307e-02 2.958e-02
 2.647e-02 1.689e-01 5.808e-02 1.166e-01 4.957e-01 7.714e-01 8.955e+00
 3.681e-03 9.169e-03 8.732e-03 5.740e-03 1.129e-02 1.366e-03 1.361e+01
 1.927e+01 8.722e+01 5.649e+02 1.292e-01 2.074e-01 1.791e-01 1.070e-01
 3.110e-01 7.592e-02], Class Predicted = 1
 X438 = [1.359e+01 1.784e+01 8.624e+01 5.723e+02 7.948e-02 4.052e-02 1.997e-02
 1.238e-02 1.573e-01 5.520e-02 2.580e-01 1.166e+00 1.683e+00 2.222e+01
 3.741e-03 5.274e-03 1.065e-02 5.044e-03 1.344e-02 1.126e-03 1.550e+01
 2.610e+01 9.891e+01 7.391e+02 1.050e-01 7.622e-02 1.060e-01 5.185e-02
 2.335e-01 6.263e-02], Class Predicted = 1
 X439 = [1.086e+01 2.148e+01 6.851e+01 3.605e+02 7.431e-02 4.227e-02 0.000e+00
 0.000e+00 1.661e-01 5.948e-02 3.163e-01 1.304e+00 2.115e+00 2.067e+01
 9.579e-03 1.104e-02 0.000e+00 0.000e+00 3.004e-02 2.228e-03 1.166e+01
 2.477e+01 7.408e+01 4.123e+02 1.001e-01 7.348e-02 0.000e+00 0.000e+00
 2.458e-01 6.592e-02], Class Predicted = 1
 X440 = [1.442e+01 1.977e+01 9.448e+01 6.425e+02 9.752e-02 1.141e-01 9.388e-02
 5.839e-02 1.879e-01 6.390e-02 2.895e-01 1.851e+00 2.376e+00 2.685e+01
 8.005e-03 2.895e-02 3.321e-02 1.424e-02 1.462e-02 4.452e-03 1.633e+01
 3.086e+01 1.095e+02 8.264e+02 1.431e-01 3.026e-01 3.194e-01 1.565e-01
 2.718e-01 9.353e-02], Class Predicted = 0
 X441 = [1.578e+01 2.291e+01 1.057e+02 7.826e+02 1.155e-01 1.752e-01 2.133e-01
 9.479e-02 2.096e-01 7.331e-02 5.520e-01 1.072e+00 3.598e+00 5.863e+01
 8.699e-03 3.976e-02 5.950e-02 1.390e-02 1.495e-02 5.984e-03 2.019e+01
 3.050e+01 1.303e+02 1.272e+03 1.855e-01 4.925e-01 7.356e-01 2.034e-01
 3.274e-01 1.252e-01], Class Predicted = 0
 X442 = [1.127e+01 1.550e+01 7.338e+01 3.920e+02 8.365e-02 1.114e-01 1.007e-01
 2.757e-02 1.810e-01 7.252e-02 3.305e-01 1.067e+00 2.569e+00 2.297e+01
 1.038e-02 6.669e-02 9.472e-02 2.047e-02 1.219e-02 1.233e-02 1.204e+01
 1.893e+01 7.973e+01 4.500e+02 1.102e-01 2.809e-01 3.021e-01 8.272e-02
 2.157e-01 1.043e-01], Class Predicted = 1
 X443 = [1.321e+01 2.806e+01 8.488e+01 5.384e+02 8.671e-02 6.877e-02 2.987e-02
 3.275e-02 1.628e-01 5.781e-02 2.351e-01 1.597e+00 1.539e+00 1.785e+01
 4.973e-03 1.372e-02 1.498e-02 9.117e-03 1.724e-02 1.343e-03 1.437e+01
 3.717e+01 9.248e+01 6.296e+02 1.072e-01 1.381e-01 1.062e-01 7.958e-02
 2.473e-01 6.443e-02], Class Predicted = 1
 X444 = [1.510e+01 1.639e+01 9.958e+01 6.745e+02 1.150e-01 1.807e-01 1.138e-01
 8.534e-02 2.001e-01 6.467e-02 4.309e-01 1.068e+00 2.796e+00 3.984e+01
 9.006e-03 4.185e-02 3.204e-02 2.258e-02 2.353e-02 4.984e-03 1.611e+01
 1.833e+01 1.059e+02 7.626e+02 1.386e-01 2.883e-01 1.960e-01 1.423e-01
 2.590e-01 7.779e-02], Class Predicted = 1
 X445 = [1.268e+01 2.384e+01 8.269e+01 4.990e+02 1.122e-01 1.262e-01 1.128e-01
 6.873e-02 1.905e-01 6.590e-02 4.255e-01 1.178e+00 2.927e+00 3.646e+01
 7.781e-03 2.648e-02 2.973e-02 1.290e-02 1.635e-02 3.601e-03 1.709e+01
 3.347e+01 1.118e+02 8.883e+02 1.851e-01 4.061e-01 4.024e-01 1.716e-01
 3.383e-01 1.031e-01], Class Predicted = 0
 X446 = [9.606e+00 1.684e+01 6.164e+01 2.805e+02 8.481e-02 9.228e-02 8.422e-02
 2.292e-02 2.036e-01 7.125e-02 1.844e-01 9.429e-01 1.429e+00 1.207e+01
 5.954e-03 3.471e-02 5.028e-02 8.510e-03 1.750e-02 4.031e-03 1.075e+01
 2.307e+01 7.125e+01 3.536e+02 1.233e-01 3.416e-01 4.341e-01 8.120e-02
 2.982e-01 9.825e-02], Class Predicted = 1
 X447 = [1.205e+01 2.272e+01 7.875e+01 4.478e+02 6.935e-02 1.073e-01 7.943e-02
 2.978e-02 1.203e-01 6.659e-02 1.194e-01 1.434e+00 1.778e+00 9.549e+00
 5.042e-03 4.560e-02 4.305e-02 1.667e-02 2.470e-02 7.358e-03 1.257e+01
 2.871e+01 8.736e+01 4.884e+02 8.799e-02 3.214e-01 2.912e-01 1.092e-01
 2.191e-01 9.349e-02], Class Predicted = 1
 X448 = [1.029e+01 2.761e+01 6.567e+01 3.214e+02 9.030e-02 7.658e-02 5.999e-02
 2.738e-02 1.593e-01 6.127e-02 2.199e-01 2.239e+00 1.437e+00 1.446e+01
 1.205e-02 2.736e-02 4.804e-02 1.721e-02 1.843e-02 4.938e-03 1.084e+01
 3.491e+01 6.957e+01 3.576e+02 1.384e-01 1.710e-01 2.000e-01 9.127e-02
 2.226e-01 8.283e-02], Class Predicted = 1
 X449 = [1.200e+01 1.565e+01 7.695e+01 4.433e+02 9.723e-02 7.165e-02 4.151e-02
 1.863e-02 2.079e-01 5.968e-02 2.271e-01 1.255e+00 1.441e+00 1.616e+01
 5.969e-03 1.812e-02 2.007e-02 7.027e-03 1.972e-02 2.607e-03 1.367e+01
 2.490e+01 8.778e+01 5.679e+02 1.377e-01 2.003e-01 2.267e-01 7.632e-02
 3.379e-01 7.924e-02], Class Predicted = 1
 X450 = [2.018e+01 2.397e+01 1.437e+02 1.245e+03 1.286e-01 3.454e-01 3.754e-01
 1.604e-01 2.906e-01 8.142e-02 9.317e-01 1.885e+00 8.649e+00 1.164e+02
 1.038e-02 6.835e-02 1.091e-01 2.593e-02 7.895e-02 5.987e-03 2.337e+01

3.172e+01 1.703e+02 1.623e+03 1.639e-01 6.164e-01 7.681e-01 2.508e-01
 5.440e-01 9.964e-02], Class Predicted = 0
 X451 = [1.480e+01 1.766e+01 9.588e+01 6.748e+02 9.179e-02 8.890e-02 4.069e-02
 2.260e-02 1.893e-01 5.886e-02 2.204e-01 6.221e-01 1.482e+00 1.975e+01
 4.796e-03 1.171e-02 1.758e-02 6.897e-03 2.254e-02 1.971e-03 1.643e+01
 2.274e+01 1.059e+02 8.295e+02 1.226e-01 1.881e-01 2.060e-01 8.308e-02
 3.600e-01 7.285e-02], Class Predicted = 1
 X452 = [1.955e+01 2.321e+01 1.289e+02 1.174e+03 1.010e-01 1.318e-01 1.856e-01
 1.021e-01 1.989e-01 5.884e-02 6.107e-01 2.836e+00 5.383e+00 7.010e+01
 1.124e-02 4.097e-02 7.469e-02 3.441e-02 2.768e-02 6.240e-03 2.082e+01
 3.044e+01 1.420e+02 1.313e+03 1.251e-01 2.414e-01 3.829e-01 1.825e-01
 2.576e-01 7.602e-02], Class Predicted = 0
 X453 = [1.122e+01 1.986e+01 7.194e+01 3.873e+02 1.054e-01 6.779e-02 5.006e-03
 7.583e-03 1.940e-01 6.028e-02 2.976e-01 1.966e+00 1.959e+00 1.962e+01
 1.289e-02 1.104e-02 3.297e-03 4.967e-03 4.243e-02 1.963e-03 1.198e+01
 2.578e+01 7.691e+01 4.361e+02 1.424e-01 9.669e-02 1.335e-02 2.022e-02
 3.292e-01 6.522e-02], Class Predicted = 1
 X454 = [8.734e+00 1.684e+01 5.527e+01 2.343e+02 1.039e-01 7.428e-02 0.000e+00
 0.000e+00 1.985e-01 7.098e-02 5.169e-01 2.079e+00 3.167e+00 2.885e+01
 1.582e-02 1.966e-02 0.000e+00 0.000e+00 1.865e-02 6.736e-03 1.017e+01
 2.280e+01 6.401e+01 3.170e+02 1.460e-01 1.310e-01 0.000e+00 0.000e+00
 2.445e-01 8.865e-02], Class Predicted = 1
 X455 = [1.917e+01 2.480e+01 1.324e+02 1.123e+03 9.740e-02 2.458e-01 2.065e-01
 1.118e-01 2.397e-01 7.800e-02 9.555e-01 3.568e+00 1.107e+01 1.162e+02
 3.139e-03 8.297e-02 8.890e-02 4.090e-02 4.484e-02 1.284e-02 2.096e+01
 2.994e+01 1.517e+02 1.332e+03 1.037e-01 3.903e-01 3.639e-01 1.767e-01
 3.176e-01 1.023e-01], Class Predicted = 0
 X456 = [1.385e+01 1.721e+01 8.844e+01 5.887e+02 8.785e-02 6.136e-02 1.420e-02
 1.141e-02 1.614e-01 5.890e-02 2.185e-01 8.561e-01 1.495e+00 1.791e+01
 4.599e-03 9.169e-03 9.127e-03 4.814e-03 1.247e-02 1.708e-03 1.549e+01
 2.358e+01 1.003e+02 7.259e+02 1.157e-01 1.350e-01 8.115e-02 5.104e-02
 2.364e-01 7.182e-02], Class Predicted = 1
 X457 = [1.106e+01 1.712e+01 7.125e+01 3.665e+02 1.194e-01 1.071e-01 4.063e-02
 4.268e-02 1.954e-01 7.976e-02 1.779e-01 1.030e+00 1.318e+00 1.230e+01
 1.262e-02 2.348e-02 1.800e-02 1.285e-02 2.220e-02 8.313e-03 1.169e+01
 2.074e+01 7.608e+01 4.111e+02 1.662e-01 2.031e-01 1.256e-01 9.514e-02
 2.780e-01 1.168e-01], Class Predicted = 1
 X458 = [1.669e+01 2.020e+01 1.071e+02 8.576e+02 7.497e-02 7.112e-02 3.649e-02
 2.307e-02 1.846e-01 5.325e-02 2.473e-01 5.679e-01 1.775e+00 2.295e+01
 2.667e-03 1.446e-02 1.423e-02 5.297e-03 1.961e-02 1.700e-03 1.918e+01
 2.656e+01 1.273e+02 1.084e+03 1.009e-01 2.920e-01 2.477e-01 8.737e-02
 4.677e-01 7.623e-02], Class Predicted = 0
 X459 = [9.720e+00 1.822e+01 6.073e+01 2.881e+02 6.950e-02 2.344e-02 0.000e+00
 0.000e+00 1.653e-01 6.447e-02 3.539e-01 4.885e+00 2.230e+00 2.169e+01
 1.713e-03 6.736e-03 0.000e+00 0.000e+00 3.799e-02 1.688e-03 9.968e+00
 2.083e+01 6.225e+01 3.038e+02 7.117e-02 2.729e-02 0.000e+00 0.000e+00
 1.909e-01 6.559e-02], Class Predicted = 1
 X460 = [1.298e+01 1.935e+01 8.452e+01 5.140e+02 9.579e-02 1.125e-01 7.107e-02
 2.950e-02 1.761e-01 6.540e-02 2.684e-01 5.664e-01 2.465e+00 2.065e+01
 5.727e-03 3.255e-02 4.393e-02 9.811e-03 2.751e-02 4.572e-03 1.442e+01
 2.195e+01 9.921e+01 6.343e+02 1.288e-01 3.253e-01 3.439e-01 9.858e-02
 3.596e-01 9.166e-02], Class Predicted = 1
 X461 = [2.048e+01 2.146e+01 1.325e+02 1.306e+03 8.355e-02 8.348e-02 9.042e-02
 6.022e-02 1.467e-01 5.177e-02 6.874e-01 1.041e+00 5.144e+00 8.350e+01
 7.959e-03 3.133e-02 4.257e-02 1.671e-02 1.341e-02 3.933e-03 2.422e+01
 2.617e+01 1.617e+02 1.750e+03 1.228e-01 2.311e-01 3.158e-01 1.445e-01
 2.238e-01 7.127e-02], Class Predicted = 0
 X462 = [1.016e+01 1.959e+01 6.473e+01 3.117e+02 1.003e-01 7.504e-02 5.025e-03
 1.116e-02 1.791e-01 6.331e-02 2.441e-01 2.090e+00 1.648e+00 1.680e+01
 1.291e-02 2.222e-02 4.174e-03 7.082e-03 2.572e-02 2.278e-03 1.065e+01
 2.288e+01 6.788e+01 3.473e+02 1.265e-01 1.200e-01 1.005e-02 2.232e-02
 2.262e-01 6.742e-02], Class Predicted = 1
 X463 = [1.385e+01 1.960e+01 8.868e+01 5.926e+02 8.684e-02 6.330e-02 1.342e-02
 2.293e-02 1.555e-01 5.673e-02 3.419e-01 1.678e+00 2.331e+00 2.963e+01
 5.836e-03 1.095e-02 5.812e-03 7.039e-03 2.014e-02 2.326e-03 1.563e+01
 2.801e+01 1.009e+02 7.491e+02 1.118e-01 1.141e-01 4.753e-02 5.890e-02
 2.513e-01 6.911e-02], Class Predicted = 1
 X464 = [1.321e+01 2.525e+01 8.410e+01 5.379e+02 8.791e-02 5.205e-02 2.772e-02
 2.068e-02 1.619e-01 5.584e-02 2.084e-01 1.350e+00 1.314e+00 1.758e+01

5.768e-03 8.082e-03 1.510e-02 6.451e-03 1.347e-02 1.828e-03 1.435e+01
 3.423e+01 9.129e+01 6.329e+02 1.289e-01 1.063e-01 1.390e-01 6.005e-02
 2.444e-01 6.788e-02], Class Predicted = 1
 X465 = [1.113e+01 1.662e+01 7.047e+01 3.811e+02 8.151e-02 3.834e-02 1.369e-02
 1.370e-02 1.511e-01 6.148e-02 1.415e-01 9.671e-01 9.680e-01 9.704e+00
 5.883e-03 6.263e-03 9.398e-03 6.189e-03 2.009e-02 2.377e-03 1.168e+01
 2.029e+01 7.435e+01 4.211e+02 1.030e-01 6.219e-02 4.580e-02 4.044e-02
 2.383e-01 7.083e-02], Class Predicted = 1
 X466 = [1.861e+01 2.025e+01 1.221e+02 1.094e+03 9.440e-02 1.066e-01 1.490e-01
 7.731e-02 1.697e-01 5.699e-02 8.529e-01 1.849e+00 5.632e+00 9.354e+01
 1.075e-02 2.722e-02 5.081e-02 1.911e-02 2.293e-02 4.217e-03 2.131e+01
 2.726e+01 1.399e+02 1.403e+03 1.338e-01 2.117e-01 3.446e-01 1.490e-01
 2.341e-01 7.421e-02], Class Predicted = 0
 X467 = [1.324e+01 2.013e+01 8.687e+01 5.429e+02 8.284e-02 1.223e-01 1.010e-01
 2.833e-02 1.601e-01 6.432e-02 2.810e-01 8.135e-01 3.369e+00 2.381e+01
 4.929e-03 6.657e-02 7.683e-02 1.368e-02 1.526e-02 8.133e-03 1.544e+01
 2.550e+01 1.150e+02 7.335e+02 1.201e-01 5.646e-01 6.556e-01 1.357e-01
 2.845e-01 1.249e-01], Class Predicted = 1
 X468 = [1.225e+01 1.794e+01 7.827e+01 4.603e+02 8.654e-02 6.679e-02 3.885e-02
 2.331e-02 1.970e-01 6.228e-02 2.200e-01 9.823e-01 1.484e+00 1.651e+01
 5.518e-03 1.562e-02 1.994e-02 7.924e-03 1.799e-02 2.484e-03 1.359e+01
 2.522e+01 8.660e+01 5.642e+02 1.217e-01 1.788e-01 1.943e-01 8.211e-02
 3.113e-01 8.132e-02], Class Predicted = 1
 X469 = [1.025e+01 1.618e+01 6.652e+01 3.242e+02 1.061e-01 1.111e-01 6.726e-02
 3.965e-02 1.743e-01 7.279e-02 3.677e-01 1.471e+00 1.597e+00 2.268e+01
 1.049e-02 4.265e-02 4.004e-02 1.544e-02 2.719e-02 7.596e-03 1.128e+01
 2.061e+01 7.153e+01 3.904e+02 1.402e-01 2.360e-01 1.898e-01 9.744e-02
 2.608e-01 9.702e-02], Class Predicted = 1
 X470 = [1.500e+01 1.551e+01 9.745e+01 6.845e+02 8.371e-02 1.096e-01 6.505e-02
 3.780e-02 1.881e-01 5.907e-02 2.318e-01 4.966e-01 2.276e+00 1.988e+01
 4.119e-03 3.207e-02 3.644e-02 1.155e-02 1.391e-02 3.204e-03 1.641e+01
 1.931e+01 1.142e+02 8.082e+02 1.136e-01 3.627e-01 3.402e-01 1.379e-01
 2.954e-01 8.362e-02], Class Predicted = 1
 X471 = [1.497e+01 1.695e+01 9.622e+01 6.859e+02 9.855e-02 7.885e-02 2.602e-02
 3.781e-02 1.780e-01 5.650e-02 2.713e-01 1.217e+00 1.893e+00 2.428e+01
 5.080e-03 1.370e-02 7.276e-03 9.073e-03 1.350e-02 1.706e-03 1.611e+01
 2.300e+01 1.046e+02 7.937e+02 1.216e-01 1.637e-01 6.648e-02 8.485e-02
 2.404e-01 6.428e-02], Class Predicted = 1
 X472 = [1.308e+01 1.571e+01 8.563e+01 5.200e+02 1.075e-01 1.270e-01 4.568e-02
 3.110e-02 1.967e-01 6.811e-02 1.852e-01 7.477e-01 1.383e+00 1.467e+01
 4.097e-03 1.898e-02 1.698e-02 6.490e-03 1.678e-02 2.425e-03 1.450e+01
 2.049e+01 9.609e+01 6.305e+02 1.312e-01 2.776e-01 1.890e-01 7.283e-02
 3.184e-01 8.183e-02], Class Predicted = 1
 X473 = [1.613e+01 1.788e+01 1.070e+02 8.072e+02 1.040e-01 1.559e-01 1.354e-01
 7.752e-02 1.998e-01 6.515e-02 3.340e-01 6.857e-01 2.183e+00 3.503e+01
 4.185e-03 2.868e-02 2.664e-02 9.067e-03 1.703e-02 3.817e-03 2.021e+01
 2.726e+01 1.327e+02 1.261e+03 1.446e-01 5.804e-01 5.274e-01 1.864e-01
 4.270e-01 1.233e-01], Class Predicted = 0
 X474 = [1.204e+01 2.814e+01 7.685e+01 4.499e+02 8.752e-02 6.000e-02 2.367e-02
 2.377e-02 1.854e-01 5.698e-02 6.061e-01 2.643e+00 4.099e+00 4.496e+01
 7.517e-03 1.555e-02 1.465e-02 1.183e-02 2.047e-02 3.883e-03 1.360e+01
 3.333e+01 8.724e+01 5.676e+02 1.041e-01 9.726e-02 5.524e-02 5.547e-02
 2.404e-01 6.639e-02], Class Predicted = 1
 X475 = [1.207e+01 1.344e+01 7.783e+01 4.452e+02 1.100e-01 9.009e-02 3.781e-02
 2.798e-02 1.657e-01 6.608e-02 2.513e-01 5.040e-01 1.714e+00 1.854e+01
 7.327e-03 1.153e-02 1.798e-02 7.986e-03 1.962e-02 2.234e-03 1.345e+01
 1.577e+01 8.692e+01 5.499e+02 1.521e-01 1.632e-01 1.622e-01 7.393e-02
 2.781e-01 8.052e-02], Class Predicted = 1
 X476 = [1.168e+01 1.617e+01 7.549e+01 4.205e+02 1.128e-01 9.263e-02 4.279e-02
 3.132e-02 1.853e-01 6.401e-02 3.713e-01 1.154e+00 2.554e+00 2.757e+01
 8.998e-03 1.292e-02 1.851e-02 1.167e-02 2.152e-02 3.213e-03 1.332e+01
 2.159e+01 8.657e+01 5.498e+02 1.526e-01 1.477e-01 1.490e-01 9.815e-02
 2.804e-01 8.024e-02], Class Predicted = 1
 X477 = [9.683e+00 1.934e+01 6.105e+01 2.857e+02 8.491e-02 5.030e-02 2.337e-02
 9.615e-03 1.580e-01 6.235e-02 2.957e-01 1.363e+00 2.054e+00 1.824e+01
 7.440e-03 1.123e-02 2.337e-02 9.615e-03 2.203e-02 4.154e-03 1.093e+01
 2.559e+01 6.910e+01 3.642e+02 1.199e-01 9.546e-02 9.350e-02 3.846e-02
 2.552e-01 7.920e-02], Class Predicted = 1
 X478 = [1.247e+01 1.860e+01 8.109e+01 4.819e+02 9.965e-02 1.058e-01 8.005e-02

3.821e-02 1.925e-01 6.373e-02 3.961e-01 1.044e+00 2.497e+00 3.029e+01
 6.953e-03 1.911e-02 2.701e-02 1.037e-02 1.782e-02 3.586e-03 1.497e+01
 2.464e+01 9.605e+01 6.779e+02 1.426e-01 2.378e-01 2.671e-01 1.015e-01
 3.014e-01 8.750e-02], Class Predicted = 1
 X479 = [1.490e+01 2.253e+01 1.021e+02 6.850e+02 9.947e-02 2.225e-01 2.733e-01
 9.711e-02 2.041e-01 6.898e-02 2.530e-01 8.749e-01 3.466e+00 2.419e+01
 6.965e-03 6.213e-02 7.926e-02 2.234e-02 1.499e-02 5.784e-03 1.635e+01
 2.757e+01 1.254e+02 8.327e+02 1.419e-01 7.090e-01 9.019e-01 2.475e-01
 2.866e-01 1.155e-01], Class Predicted = 0
 X480 = [1.735e+01 2.306e+01 1.110e+02 9.331e+02 8.662e-02 6.290e-02 2.891e-02
 2.837e-02 1.564e-01 5.307e-02 4.007e-01 1.317e+00 2.577e+00 4.441e+01
 5.726e-03 1.106e-02 1.246e-02 7.671e-03 1.411e-02 1.578e-03 1.985e+01
 3.147e+01 1.282e+02 1.218e+03 1.240e-01 1.486e-01 1.211e-01 8.235e-02
 2.452e-01 6.515e-02], Class Predicted = 0
 X481 = [1.940e+01 2.350e+01 1.291e+02 1.155e+03 1.027e-01 1.558e-01 2.049e-01
 8.886e-02 1.978e-01 6.000e-02 5.243e-01 1.802e+00 4.037e+00 6.041e+01
 1.061e-02 3.252e-02 3.915e-02 1.559e-02 2.186e-02 3.949e-03 2.165e+01
 3.053e+01 1.449e+02 1.417e+03 1.463e-01 2.968e-01 3.458e-01 1.564e-01
 2.920e-01 7.614e-02], Class Predicted = 0
 X482 = [1.387e+01 2.070e+01 8.977e+01 5.848e+02 9.578e-02 1.018e-01 3.688e-02
 2.369e-02 1.620e-01 6.688e-02 2.720e-01 1.047e+00 2.076e+00 2.312e+01
 6.298e-03 2.172e-02 2.615e-02 9.061e-03 1.490e-02 3.599e-03 1.505e+01
 2.475e+01 9.917e+01 6.886e+02 1.264e-01 2.037e-01 1.377e-01 6.845e-02
 2.249e-01 8.492e-02], Class Predicted = 1
 X483 = [1.650e+01 1.829e+01 1.066e+02 8.381e+02 9.686e-02 8.468e-02 5.862e-02
 4.835e-02 1.495e-01 5.593e-02 3.389e-01 1.439e+00 2.344e+00 3.358e+01
 7.257e-03 1.805e-02 1.832e-02 1.033e-02 1.694e-02 2.001e-03 1.813e+01
 2.545e+01 1.172e+02 1.009e+03 1.338e-01 1.679e-01 1.663e-01 9.123e-02
 2.394e-01 6.469e-02], Class Predicted = 0
 X484 = [1.147e+01 1.603e+01 7.302e+01 4.027e+02 9.076e-02 5.886e-02 2.587e-02
 2.322e-02 1.634e-01 6.372e-02 1.707e-01 7.615e-01 1.090e+00 1.225e+01
 9.191e-03 8.548e-03 9.400e-03 6.315e-03 1.755e-02 3.009e-03 1.251e+01
 2.079e+01 7.967e+01 4.758e+02 1.531e-01 1.120e-01 9.823e-02 6.548e-02
 2.851e-01 8.763e-02], Class Predicted = 1
 X485 = [1.980e+01 2.156e+01 1.297e+02 1.230e+03 9.383e-02 1.306e-01 1.272e-01
 8.691e-02 2.094e-01 5.581e-02 9.553e-01 1.186e+00 6.487e+00 1.244e+02
 6.804e-03 3.169e-02 3.446e-02 1.712e-02 1.897e-02 4.045e-03 2.573e+01
 2.864e+01 1.703e+02 2.009e+03 1.353e-01 3.235e-01 3.617e-01 1.820e-01
 3.070e-01 8.255e-02], Class Predicted = 0
 X486 = [1.497e+01 1.976e+01 9.550e+01 6.902e+02 8.421e-02 5.352e-02 1.947e-02
 1.939e-02 1.515e-01 5.266e-02 1.840e-01 1.065e+00 1.286e+00 1.664e+01
 3.634e-03 7.983e-03 8.268e-03 6.432e-03 1.924e-02 1.520e-03 1.598e+01
 2.582e+01 1.023e+02 7.821e+02 1.045e-01 9.995e-02 7.750e-02 5.754e-02
 2.646e-01 6.085e-02], Class Predicted = 1
 X487 = [1.160e+01 1.836e+01 7.388e+01 4.127e+02 8.508e-02 5.855e-02 3.367e-02
 1.777e-02 1.516e-01 5.859e-02 1.816e-01 7.656e-01 1.303e+00 1.289e+01
 6.709e-03 1.701e-02 2.080e-02 7.497e-03 2.124e-02 2.768e-03 1.277e+01
 2.402e+01 8.268e+01 4.951e+02 1.342e-01 1.808e-01 1.860e-01 8.288e-02
 3.210e-01 7.863e-02], Class Predicted = 1
 X488 = [1.900e+01 1.891e+01 1.234e+02 1.138e+03 8.217e-02 8.028e-02 9.271e-02
 5.627e-02 1.946e-01 5.044e-02 6.896e-01 1.342e+00 5.216e+00 8.123e+01
 4.428e-03 2.731e-02 4.040e-02 1.361e-02 2.030e-02 2.686e-03 2.232e+01
 2.573e+01 1.482e+02 1.538e+03 1.021e-01 2.264e-01 3.207e-01 1.218e-01
 2.841e-01 6.541e-02], Class Predicted = 0
 X489 = [1.049e+01 1.929e+01 6.741e+01 3.361e+02 9.989e-02 8.578e-02 2.995e-02
 1.201e-02 2.217e-01 6.481e-02 3.550e-01 1.534e+00 2.302e+00 2.313e+01
 7.595e-03 2.219e-02 2.880e-02 8.614e-03 2.710e-02 3.451e-03 1.154e+01
 2.331e+01 7.422e+01 4.028e+02 1.219e-01 1.486e-01 7.987e-02 3.203e-02
 2.826e-01 7.552e-02], Class Predicted = 1
 X490 = [9.876e+00 1.727e+01 6.292e+01 2.954e+02 1.089e-01 7.232e-02 1.756e-02
 1.952e-02 1.934e-01 6.285e-02 2.137e-01 1.342e+00 1.517e+00 1.233e+01
 9.719e-03 1.249e-02 7.975e-03 7.527e-03 2.210e-02 2.472e-03 1.042e+01
 2.322e+01 6.708e+01 3.316e+02 1.415e-01 1.247e-01 6.213e-02 5.588e-02
 2.989e-01 7.380e-02], Class Predicted = 1
 X491 = [1.288e+01 1.822e+01 8.445e+01 4.931e+02 1.218e-01 1.661e-01 4.825e-02
 5.303e-02 1.709e-01 7.253e-02 4.426e-01 1.169e+00 3.176e+00 3.437e+01
 5.273e-03 2.329e-02 1.405e-02 1.244e-02 1.816e-02 3.299e-03 1.505e+01
 2.437e+01 9.931e+01 6.747e+02 1.456e-01 2.961e-01 1.246e-01 1.096e-01
 2.582e-01 8.893e-02], Class Predicted = 1

X492 = [1.537e+01 2.276e+01 1.002e+02 7.282e+02 9.200e-02 1.036e-01 1.122e-01
 7.483e-02 1.717e-01 6.097e-02 3.129e-01 8.413e-01 2.075e+00 2.944e+01
 9.882e-03 2.444e-02 4.531e-02 1.763e-02 2.471e-02 2.142e-03 1.643e+01
 2.584e+01 1.075e+02 8.309e+02 1.257e-01 1.997e-01 2.846e-01 1.476e-01
 2.556e-01 6.828e-02], Class Predicted = 0
 X493 = [1.234e+01 1.495e+01 7.829e+01 4.691e+02 8.682e-02 4.571e-02 2.109e-02
 2.054e-02 1.571e-01 5.708e-02 3.833e-01 9.078e-01 2.602e+00 3.015e+01
 7.702e-03 8.491e-03 1.307e-02 1.030e-02 2.970e-02 1.432e-03 1.318e+01
 1.685e+01 8.411e+01 5.331e+02 1.048e-01 6.744e-02 4.921e-02 4.793e-02
 2.298e-01 5.974e-02], Class Predicted = 1
 X494 = [2.327e+01 2.204e+01 1.521e+02 1.686e+03 8.439e-02 1.145e-01 1.324e-01
 9.702e-02 1.801e-01 5.553e-02 6.642e-01 8.561e-01 4.603e+00 9.785e+01
 4.910e-03 2.544e-02 2.822e-02 1.623e-02 1.956e-02 3.740e-03 2.801e+01
 2.822e+01 1.842e+02 2.403e+03 1.228e-01 3.583e-01 3.948e-01 2.346e-01
 3.589e-01 9.187e-02], Class Predicted = 0
 X495 = [1.164e+01 1.833e+01 7.517e+01 4.125e+02 1.142e-01 1.017e-01 7.070e-02
 3.485e-02 1.801e-01 6.520e-02 3.060e-01 1.657e+00 2.155e+00 2.062e+01
 8.540e-03 2.310e-02 2.945e-02 1.398e-02 1.565e-02 3.840e-03 1.314e+01
 2.926e+01 8.551e+01 5.217e+02 1.688e-01 2.660e-01 2.873e-01 1.218e-01
 2.806e-01 9.097e-02], Class Predicted = 1
 X496 = [1.230e+01 1.902e+01 7.788e+01 4.644e+02 8.313e-02 4.202e-02 7.756e-03
 8.535e-03 1.539e-01 5.945e-02 1.840e-01 1.532e+00 1.199e+00 1.324e+01
 7.881e-03 8.432e-03 7.004e-03 6.522e-03 1.939e-02 2.222e-03 1.335e+01
 2.846e+01 8.453e+01 5.443e+02 1.222e-01 9.052e-02 3.619e-02 3.983e-02
 2.554e-01 7.207e-02], Class Predicted = 1
 X497 = [1.918e+01 2.249e+01 1.275e+02 1.148e+03 8.523e-02 1.428e-01 1.114e-01
 6.772e-02 1.767e-01 5.529e-02 4.357e-01 1.073e+00 3.833e+00 5.422e+01
 5.524e-03 3.698e-02 2.706e-02 1.221e-02 1.415e-02 3.397e-03 2.336e+01
 3.206e+01 1.664e+02 1.688e+03 1.322e-01 5.601e-01 3.865e-01 1.708e-01
 3.193e-01 9.221e-02], Class Predicted = 0
 X498 = [1.678e+01 1.880e+01 1.093e+02 8.863e+02 8.865e-02 9.182e-02 8.422e-02
 6.576e-02 1.893e-01 5.534e-02 5.990e-01 1.391e+00 4.129e+00 6.734e+01
 6.123e-03 2.470e-02 2.626e-02 1.604e-02 2.091e-02 3.493e-03 2.005e+01
 2.630e+01 1.307e+02 1.260e+03 1.168e-01 2.119e-01 2.318e-01 1.474e-01
 2.810e-01 7.228e-02], Class Predicted = 0
 X499 = [1.630e+01 1.570e+01 1.047e+02 8.198e+02 9.427e-02 6.712e-02 5.526e-02
 4.563e-02 1.711e-01 5.657e-02 2.067e-01 4.706e-01 1.146e+00 2.067e+01
 7.394e-03 1.203e-02 2.470e-02 1.431e-02 1.344e-02 2.569e-03 1.732e+01
 1.776e+01 1.098e+02 9.282e+02 1.354e-01 1.361e-01 1.947e-01 1.357e-01
 2.300e-01 7.230e-02], Class Predicted = 1
 X500 = [1.701e+01 2.026e+01 1.097e+02 9.043e+02 8.772e-02 7.304e-02 6.950e-02
 5.390e-02 2.026e-01 5.223e-02 5.858e-01 8.554e-01 4.106e+00 6.846e+01
 5.038e-03 1.503e-02 1.946e-02 1.123e-02 2.294e-02 2.581e-03 1.980e+01
 2.505e+01 1.300e+02 1.210e+03 1.111e-01 1.486e-01 1.932e-01 1.096e-01
 3.275e-01 6.469e-02], Class Predicted = 0
 X501 = [1.026e+01 1.658e+01 6.585e+01 3.208e+02 8.877e-02 8.066e-02 4.358e-02
 2.438e-02 1.669e-01 6.714e-02 1.144e-01 1.023e+00 9.887e-01 7.326e+00
 1.027e-02 3.084e-02 2.613e-02 1.097e-02 2.277e-02 5.890e-03 1.083e+01
 2.204e+01 7.108e+01 3.574e+02 1.461e-01 2.246e-01 1.783e-01 8.333e-02
 2.691e-01 9.479e-02], Class Predicted = 1
 X502 = [7.729e+00 2.549e+01 4.798e+01 1.788e+02 8.098e-02 4.878e-02 0.000e+00
 0.000e+00 1.870e-01 7.285e-02 3.777e-01 1.462e+00 2.492e+00 1.914e+01
 1.266e-02 9.692e-03 0.000e+00 0.000e+00 2.882e-02 6.872e-03 9.077e+00
 3.092e+01 5.717e+01 2.480e+02 1.256e-01 8.340e-02 0.000e+00 0.000e+00
 3.058e-01 9.938e-02], Class Predicted = 1
 X503 = [1.281e+01 1.306e+01 8.129e+01 5.088e+02 8.739e-02 3.774e-02 9.193e-03
 1.330e-02 1.466e-01 6.133e-02 2.889e-01 9.899e-01 1.778e+00 2.179e+01
 8.534e-03 6.364e-03 6.180e-03 7.408e-03 1.065e-02 3.351e-03 1.363e+01
 1.615e+01 8.670e+01 5.707e+02 1.162e-01 5.445e-02 2.758e-02 3.990e-02
 1.783e-01 7.319e-02], Class Predicted = 1
 X504 = [1.953e+01 3.247e+01 1.280e+02 1.223e+03 8.420e-02 1.130e-01 1.145e-01
 6.637e-02 1.428e-01 5.313e-02 7.392e-01 1.321e+00 4.722e+00 1.099e+02
 5.539e-03 2.644e-02 2.664e-02 1.078e-02 1.332e-02 2.256e-03 2.790e+01
 4.541e+01 1.802e+02 2.477e+03 1.408e-01 4.097e-01 3.995e-01 1.625e-01
 2.713e-01 7.568e-02], Class Predicted = 0
 X505 = [9.731e+00 1.534e+01 6.378e+01 3.002e+02 1.072e-01 1.599e-01 4.108e-01
 7.857e-02 2.548e-01 9.296e-02 8.245e-01 2.664e+00 4.073e+00 4.985e+01
 1.097e-02 9.586e-02 3.960e-01 5.279e-02 3.546e-02 2.984e-02 1.102e+01
 1.949e+01 7.104e+01 3.805e+02 1.292e-01 2.772e-01 8.216e-01 1.571e-01

```

3.108e-01 1.259e-01], Class Predicted = 1
X506 = [1.305e+01 1.384e+01 8.271e+01 5.306e+02 8.352e-02 3.735e-02 4.559e-03
8.829e-03 1.453e-01 5.518e-02 3.975e-01 8.285e-01 2.567e+00 3.301e+01
4.148e-03 4.711e-03 2.831e-03 4.821e-03 1.422e-02 2.273e-03 1.473e+01
1.740e+01 9.396e+01 6.724e+02 1.016e-01 5.847e-02 1.824e-02 3.532e-02
2.107e-01 6.580e-02], Class Predicted = 1
X507 = [1.265e+01 1.817e+01 8.269e+01 4.856e+02 1.076e-01 1.334e-01 8.017e-02
5.074e-02 1.641e-01 6.854e-02 2.324e-01 6.332e-01 1.696e+00 1.840e+01
5.704e-03 2.502e-02 2.636e-02 1.032e-02 1.759e-02 3.563e-03 1.438e+01
2.215e+01 9.529e+01 6.337e+02 1.533e-01 3.842e-01 3.582e-01 1.407e-01
3.230e-01 1.033e-01], Class Predicted = 1
X508 = [2.013e+01 2.825e+01 1.312e+02 1.261e+03 9.780e-02 1.034e-01 1.440e-01
9.791e-02 1.752e-01 5.533e-02 7.655e-01 2.463e+00 5.203e+00 9.904e+01
5.769e-03 2.423e-02 3.950e-02 1.678e-02 1.898e-02 2.498e-03 2.369e+01
3.825e+01 1.550e+02 1.731e+03 1.166e-01 1.922e-01 3.215e-01 1.628e-01
2.572e-01 6.637e-02], Class Predicted = 0
X509 = [1.137e+01 1.889e+01 7.217e+01 3.960e+02 8.713e-02 5.008e-02 2.399e-02
2.173e-02 2.013e-01 5.955e-02 2.656e-01 1.974e+00 1.954e+00 1.749e+01
6.538e-03 1.395e-02 1.376e-02 9.924e-03 3.416e-02 2.928e-03 1.236e+01
2.614e+01 7.929e+01 4.593e+02 1.118e-01 9.708e-02 7.529e-02 6.203e-02
3.267e-01 6.994e-02], Class Predicted = 1
X510 = [2.722e+01 2.187e+01 1.821e+02 2.250e+03 1.094e-01 1.914e-01 2.871e-01
1.878e-01 1.800e-01 5.770e-02 8.361e-01 1.481e+00 5.820e+00 1.287e+02
4.631e-03 2.537e-02 3.109e-02 1.241e-02 1.575e-02 2.747e-03 3.312e+01
3.285e+01 2.208e+02 3.216e+03 1.472e-01 4.034e-01 5.340e-01 2.688e-01
2.856e-01 8.082e-02], Class Predicted = 0
X511 = [9.436e+00 1.832e+01 5.982e+01 2.786e+02 1.009e-01 5.956e-02 2.710e-02
1.406e-02 1.506e-01 6.959e-02 5.079e-01 1.247e+00 3.267e+00 3.048e+01
6.836e-03 8.982e-03 2.348e-02 6.565e-03 1.942e-02 2.713e-03 1.202e+01
2.502e+01 7.579e+01 4.396e+02 1.333e-01 1.049e-01 1.144e-01 5.052e-02
2.454e-01 8.136e-02], Class Predicted = 1
X512 = [1.365e+01 1.316e+01 8.788e+01 5.689e+02 9.646e-02 8.711e-02 3.888e-02
2.563e-02 1.360e-01 6.344e-02 2.102e-01 4.336e-01 1.391e+00 1.740e+01
4.133e-03 1.695e-02 1.652e-02 6.659e-03 1.371e-02 2.735e-03 1.534e+01
1.635e+01 9.971e+01 7.062e+02 1.311e-01 2.474e-01 1.759e-01 8.056e-02
2.380e-01 8.718e-02], Class Predicted = 1

```

```
In [ ]: #Model Score in Test
RFC.score(x_test, test_pred)
```

Out[]: 1.0

5.4.3 Metrics & Scoring

```
In [ ]: #Accuracy Score
accuracy_score(y_test, test_pred)
```

Out[]: 0.9532163742690059

```
In [ ]: # Find R Squared
correlation_matrix = np.corrcoef(y_test, test_pred)
correlation_xy = correlation_matrix[0,1]
r_squared = correlation_xy**2

print(r_squared)
```

0.8093303580689133

```
In [ ]: #ROC Score
roc_auc_score(y_test, RFC.predict(x_test), multi_class='ovr')
```

Out[]: 0.9446278169815615

```
In [ ]:
```

```
#F1 Score
print(f1_score(y_test, test_pred, average='macro'))
print(f1_score(y_test, test_pred, average='micro'))
print(f1_score(y_test, test_pred, average='weighted'))
```

```
0.9493933116306599
0.9532163742690059
0.9529452350747969
```

```
In [ ]:
```

```
#Precision Score
print(precision_score(y_test, test_pred, average='macro'))
print(precision_score(y_test, test_pred, average='micro'))
print(precision_score(y_test, test_pred, average='weighted'))
```

```
0.9550605737868602
0.9532163742690059
0.9534606391058077
```

```
In [ ]:
```

```
#Recall Score
print(recall_score(y_test, test_pred, average='macro'))
print(recall_score(y_test, test_pred, average='micro'))
print(recall_score(y_test, test_pred, average='weighted'))
```

```
0.9446278169815616
0.9532163742690059
0.9532163742690059
```

```
In [ ]:
```

```
#Cohen Kappa Score
cohen_kappa_score(y_test, test_pred)
```

```
Out[ ]:
```

```
0.8988282084572781
```

```
In [ ]:
```

```
mse = mean_squared_error(y_test, test_pred)
rmse = np.sqrt(mse)
print("RMSE: ", np.round(rmse, 2))
```

```
RMSE:  0.22
```

5.4.4 Confusion Matrix

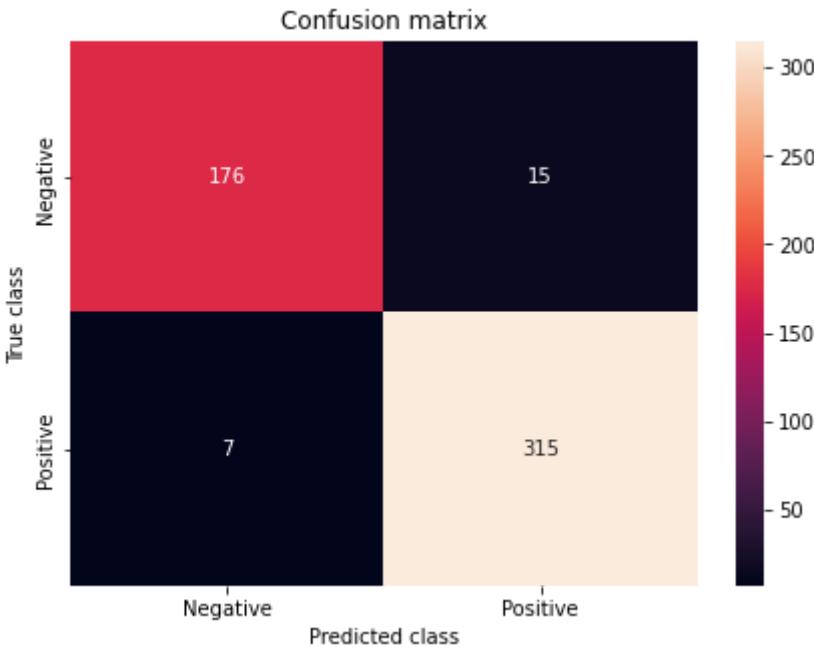
```
In [ ]:
```

```
# Training a random forest
rnd_clf = RandomForestClassifier(n_estimators=10, max_leaf_nodes=16, n_jobs=-1, max_
rnd_clf.fit(x_train, y_train)
# Predicting with the test set
test_pred_rf = rnd_clf.predict(x_test)
# Accuracy
print('Accuracy:', accuracy_score(y_test, test_pred_rf)*100)
```

```
Accuracy: 95.71150097465888
```

```
In [ ]:
```

```
# Confusion matrix random forest
LABELS = ['Negative', 'Positive']
conf_matrix = confusion_matrix(y_test, test_pred_rf)
plt.figure(figsize=(7, 5))
sns.heatmap(conf_matrix, xticklabels=LABELS, yticklabels=LABELS, annot=True, fmt="d")
plt.title("Confusion matrix")
plt.ylabel('True class')
plt.xlabel('Predicted class')
plt.show()
```



5.4.5 Cross-Validation

```
In [ ]: x_shuffle, y2_shuffle = shuffle(x, y, random_state=7)
```

```
In [ ]: scores = cross_val_score(RFC, x_shuffle, y_shuffle,
                               scoring="neg_mean_squared_error",
                               cv=5, n_jobs=1)
rmse = np.sqrt(-scores)
print("RMSE values: ", np.round(rmse, 2))
print("RMSE average: ", np.mean(rmse))
```

RMSE values: [0.16 0.19 0.23 0.25 0.13]
RMSE average: 0.19195793045137738

5.4.6 K-Fold

```
In [ ]: #Defining the folds
kfold = KFold(n_splits=4, random_state=0, shuffle=True)

#Printing the folds
for train, test in kfold.split(x):
    print("Train: %s \nTest: %s\n" % (train, test))
```

```
Train: [ 0  2  3  4  5  6  7  8  9 11 13 16 18 19 20 22 23 24
      25 26 27 28 29 30 32 33 34 35 36 38 39 40 41 42 43 44
      47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 65
      67 68 69 70 72 73 74 77 79 80 81 82 83 84 86 87 88 91
      92 93 94 95 97 98 99 100 101 104 105 106 109 110 111 112 114 115
     116 117 119 120 121 122 123 124 125 126 128 129 130 131 133 135 136 137
     138 139 141 143 144 145 146 147 148 149 150 151 152 153 154 155 156 158
     160 161 163 164 166 167 168 169 171 173 174 176 177 178 180 181 182 183
     184 186 187 189 191 192 193 195 197 198 199 200 201 202 203 204 206 207
     209 212 214 215 216 217 218 219 220 221 222 223 226 227 228 229 230 232
     234 237 238 240 241 243 244 245 246 248 251 252 253 254 255 256 257 258
     259 260 261 262 265 266 267 269 270 273 274 275 276 277 278 279 280 282
     284 285 286 287 288 289 290 291 292 293 294 295 296 297 299 300 302 303
     304 305 307 309 311 312 314 315 316 317 320 321 322 323 324 326 327 328
     329 331 332 333 334 335 336 339 341 342 343 344 346 347 349 351 352 355
     357 359 360 361 362 363 365 367 368 369 370 371 373 374 375 376 377 378
```

379	381	383	386	387	388	390	392	393	394	395	396	397	398	399	402	403	404	
405	407	408	409	410	411	415	418	419	422	423	424	425	426	428	429	430	431	
433	435	436	437	438	440	441	442	443	444	445	446	447	448	449	450	451	452	
453	454	455	456	459	460	461	462	464	467	470	472	474	475	476	477	478	479	
480	481	483	484	485	486	487	488	489	491	493	494	495	496	497	498	499	501	
502	503	505	506	507	508	509	510	511	513	517	520	521	522	523	524	526	528	
529	530	531	532	533	534	535	536	537	539	540	541	543	544	545	548	549	551	
552	553	554	555	556	557	558	559	561	563	565	568]							

Test: [1 10 12 14 15 17 21 31 37 45 46 64 66 71 75 76 78 85
 89 90 96 102 103 107 108 113 118 127 132 134 140 142 157 159 162 165
 170 172 175 179 185 188 190 194 196 205 208 210 211 213 224 225 231 233
 235 236 239 242 247 249 250 263 264 268 271 272 281 283 298 301 306 308
 310 313 318 319 325 330 337 338 340 345 348 350 353 354 356 358 364 366
 372 380 382 384 385 389 391 400 401 406 412 413 414 416 417 420 421 427
 432 434 439 457 458 463 465 466 468 469 471 473 482 490 492 500 504 512
 514 515 516 518 519 525 527 538 542 546 547 550 560 562 564 566 567]

Train: [0 1 2 3 9 10 11 12 13 14 15 16 17 19 21 23 24 25
 27 28 29 31 32 33 35 36 37 39 40 41 42 43 44 45 46 47
 48 50 53 57 58 61 62 64 66 67 69 70 71 72 73 75 76 77
 78 79 80 82 83 84 85 86 87 88 89 90 91 94 95 96 98 99
 102 103 104 107 108 109 110 111 113 114 115 117 118 119 121 123 125 127
 128 129 130 131 132 133 134 136 138 139 140 142 143 145 146 147 148 149
 150 151 152 156 157 159 161 162 163 165 166 168 169 170 172 174 175 176
 177 178 179 180 182 183 184 185 187 188 189 190 192 193 194 196 197 198
 199 201 203 204 205 207 208 209 210 211 212 213 214 215 216 217 218 221
 222 223 224 225 226 227 228 231 232 233 234 235 236 237 239 241 242 244
 247 248 249 250 251 253 254 255 256 257 258 259 260 263 264 265 266 267
 268 269 270 271 272 273 274 275 277 279 280 281 283 286 287 288 289 290
 291 292 294 295 296 297 298 300 301 302 304 305 306 307 308 309 310 311
 313 314 317 318 319 321 323 324 325 326 327 328 330 331 335 337 338 340
 341 342 345 348 349 350 351 352 353 354 356 358 359 360 362 363 364 365
 366 368 369 370 371 372 373 374 375 376 377 380 381 382 383 384 385 386
 387 388 389 391 393 394 395 396 397 398 399 400 401 402 404 405 406 407
 410 411 412 413 414 416 417 418 419 420 421 422 423 424 426 427 430 431
 432 433 434 435 438 439 442 443 444 445 446 447 448 449 450 451 452 455
 456 457 458 459 460 461 462 463 465 466 467 468 469 470 471 472 473 475
 476 480 482 483 485 486 488 490 491 492 493 494 495 496 497 498 500 501
 504 506 507 509 510 511 512 513 514 515 516 518 519 520 521 522 524 525
 527 528 529 530 532 533 535 536 537 538 539 540 541 542 543 544 545 546
 547 550 551 552 556 558 559 560 562 564 566 567 568]

Test: [4 5 6 7 8 18 20 22 26 30 34 38 49 51 52 54 55 56
 59 60 63 65 68 74 81 92 93 97 100 101 105 106 112 116 120 122
 124 126 135 137 141 144 153 154 155 158 160 164 167 171 173 181 186 191
 195 200 202 206 219 220 229 230 238 240 243 245 246 252 261 262 276 278
 282 284 285 293 299 303 312 315 316 320 322 329 332 333 334 336 339 343
 344 346 347 355 357 361 367 378 379 390 392 403 408 409 415 425 428 429
 436 437 440 441 453 454 464 474 477 478 479 481 484 487 489 499 502 503
 505 508 517 523 526 531 534 548 549 553 554 555 557 561 563 565]

Train: [0 1 3 4 5 6 7 8 9 10 11 12 14 15 17 18 20 21
 22 23 26 28 30 31 32 34 36 37 38 41 42 43 45 46 47 48
 49 50 51 52 53 54 55 56 57 58 59 60 62 63 64 65 66 68
 69 70 71 72 74 75 76 77 78 80 81 82 84 85 86 87 89 90
 91 92 93 94 95 96 97 98 99 100 101 102 103 105 106 107 108 112
 113 115 116 118 119 120 122 123 124 125 126 127 128 130 131 132 134 135
 137 140 141 142 143 144 147 148 151 153 154 155 157 158 159 160 162 163
 164 165 167 169 170 171 172 173 174 175 177 178 179 180 181 182 183 184
 185 186 187 188 190 191 192 193 194 195 196 197 200 201 202 203 205 206
 207 208 209 210 211 213 219 220 222 224 225 226 227 229 230 231 233 235
 236 238 239 240 242 243 244 245 246 247 249 250 252 256 257 258 261 262
 263 264 265 266 268 270 271 272 273 275 276 277 278 279 280 281 282 283
 284 285 286 288 291 292 293 294 298 299 301 303 304 305 306 307 308 310
 312 313 314 315 316 318 319 320 321 322 324 325 329 330 332 333 334 335
 336 337 338 339 340 341 343 344 345 346 347 348 349 350 353 354 355 356
 357 358 359 360 361 364 366 367 368 369 370 371 372 373 377 378 379 380
 382 383 384 385 387 388 389 390 391 392 394 396 397 398 400 401 403 405
 406 408 409 411 412 413 414 415 416 417 418 419 420 421 423 425 427 428
 429 430 431 432 434 436 437 439 440 441 442 446 448 451 453 454 455 457 458]

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459 461 463 464 465 466 468 469 471 472 473 474 476 477 478 479 480 481
482 484 485 486 487 488 489 490 492 495 499 500 502 503 504 505 508 509
510 511 512 514 515 516 517 518 519 521 522 523 525 526 527 528 529 531
534 535 536 537 538 540 542 543 544 546 547 548 549 550 551 553 554 555
556 557 558 559 560 561 562 563 564 565 566 567 568]
Test: [ 2 13 16 19 24 25 27 29 33 35 39 40 44 61 67 73 79 83
     88 104 109 110 111 114 117 121 129 133 136 138 139 145 146 149 150 152
    156 161 166 168 176 189 198 199 204 212 214 215 216 217 218 221 223 228
    232 234 237 241 248 251 253 254 255 259 260 267 269 274 287 289 290 295
    296 297 300 302 309 311 317 323 326 327 328 331 342 351 352 362 363 365
    374 375 376 381 386 393 395 399 402 404 407 410 422 424 426 433 435 438
    443 444 445 447 449 450 452 455 456 460 462 467 470 475 483 491 493 494
    496 497 498 501 506 507 513 520 524 530 532 533 539 541 545 552]

Train: [ 1 2 4 5 6 7 8 10 12 13 14 15 16 17 18 19 20 21
     22 24 25 26 27 29 30 31 33 34 35 37 38 39 40 44 45 46
     49 51 52 54 55 56 59 60 61 63 64 65 66 67 68 71 73 74
     75 76 78 79 81 83 85 88 89 90 92 93 96 97 100 101 102 103
    104 105 106 107 108 109 110 111 112 113 114 116 117 118 120 121 122 124
    126 127 129 132 133 134 135 136 137 138 139 140 141 142 144 145 146 149
    150 152 153 154 155 156 157 158 159 160 161 162 164 165 166 167 168 170
    171 172 173 175 176 179 181 185 186 188 189 190 191 194 195 196 198 199
    200 202 204 205 206 208 210 211 212 213 214 215 216 217 218 219 220 221
    223 224 225 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242
    243 245 246 247 248 249 250 251 252 253 254 255 259 260 261 262 263 264
    267 268 269 271 272 274 276 278 281 282 283 284 285 287 289 290 293 295
    296 297 298 299 300 301 302 303 306 308 309 310 311 312 313 315 316 317
    318 319 320 322 323 325 326 327 328 329 330 331 332 333 334 336 337 338
    339 340 342 343 344 345 346 347 348 350 351 352 353 354 355 356 357 358
    361 362 363 364 365 366 367 372 374 375 376 378 379 380 381 382 384 385
    386 389 390 391 392 393 395 399 400 401 402 403 404 406 407 408 409 410
    412 413 414 415 416 417 420 421 422 424 425 426 427 428 429 432 433 434
    435 436 437 438 439 440 441 443 444 445 447 449 450 452 453 454 455 456
    457 458 460 462 463 464 465 466 467 468 469 470 471 473 474 475 477 478
    479 481 482 483 484 487 489 490 491 492 493 494 496 497 498 499 500 501
    502 503 504 505 506 507 508 512 513 514 515 516 517 518 519 520 523 524
    525 526 527 530 531 532 533 534 538 539 541 542 545 546 547 548 549 550
    552 553 554 555 557 560 561 562 563 564 565 566 567]

Test: [ 0 3 9 11 23 28 32 36 41 42 43 47 48 50 53 57 58 62
     69 70 72 77 80 82 84 86 87 91 94 95 98 99 115 119 123 125
    128 130 131 143 147 148 151 163 169 174 177 178 180 182 183 184 187 192
    193 197 201 203 207 209 222 226 227 244 256 257 258 265 266 270 273 275
    277 279 280 286 288 291 292 294 304 305 307 314 321 324 335 341 349 359
    360 368 369 370 371 373 377 383 387 388 394 396 397 398 405 411 418 419
    423 430 431 442 446 448 451 459 461 472 476 480 485 486 488 495 509 510
    511 521 522 528 529 535 536 537 540 543 544 551 556 558 559 568]

```

In []:

```
#Output the accuracy
results = cross_val_score(RFC, x, y, cv=kfold)
print('Results from all folds: ', results)
```

Results from all folds: [0.97202797 0.95070423 0.93661972 0.97183099]

In []:

```
#Printing the mean and std across all folds
print("Accuracy: %.3f% (%.3f%)" % (results.mean()*100.0, results.std()*100.0))
```

Accuracy: 95.780% (1.499%)

6. Summary

6.1 Theory

Machine learning can be defined as "automatic computing procedures based on logical or

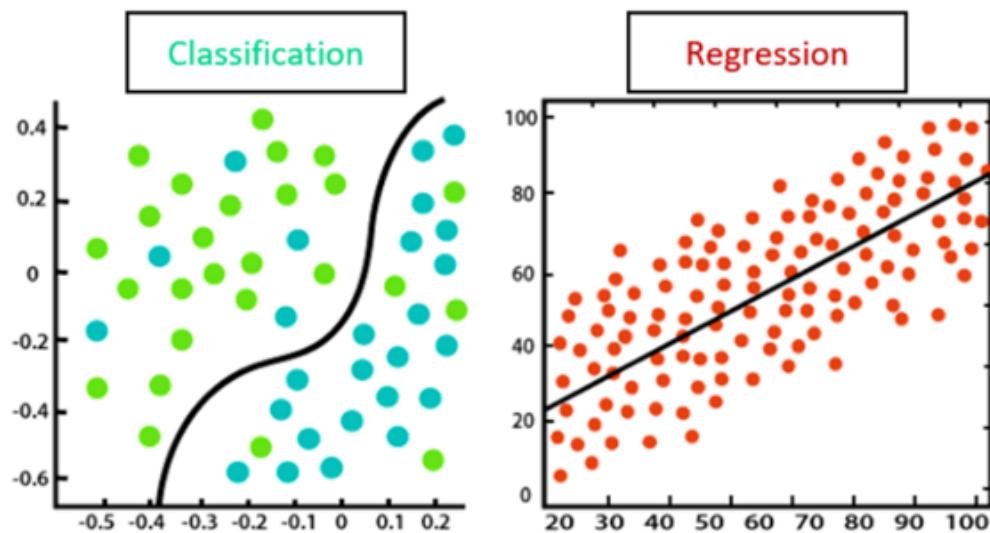
binary operations that learn a task from a series of examples" (Mitchie et al., 1994). While there are many different methods of machine learning – unsupervised, reinforcement and deep – this paper only focused on supervised learning. This method involves gathering a series of features X_i , plugging them into a model and outputting dependent variables y . The aim of such is to be able to train the model with a portion of your data to correctly calculate the value of y .

Figure 9



Supervised learning is further classified into two areas; Regression and Classification. Regression involves a continuous numerical value, such as predicting someone's age, weight, income etc. On the other hand, classification is where the y variable is a category or class such as car type, flower type, spam email or non-spam etc. Within classification, there are 3 different types; Binary, Multi-class and Multi-label. Binary has two possible outcomes. E.g. a tumour can be malignant or benign, or a transaction can be fraudulent or not. Multi-class is where y can be one of more than 2 classes. E.g. cat, dog, rabbit etc. Multi-label differs from Multi-class as y can be mapped to more than one label. E.g. a photo can be of a dog, but there might also be a cat in it.

Figure 10



Source: Javatpoint.com. (2021)

This paper uses 4 classification algorithms to predict y : Logistic Regression, Support Vector Machines, Gaussian Naïve Bayes and Random Forests. Logistic Regression is used to predict a binary outcome, either $Y = 0$ or $Y = 1$. It calculates the probability of Y , given the independent variables x_i .

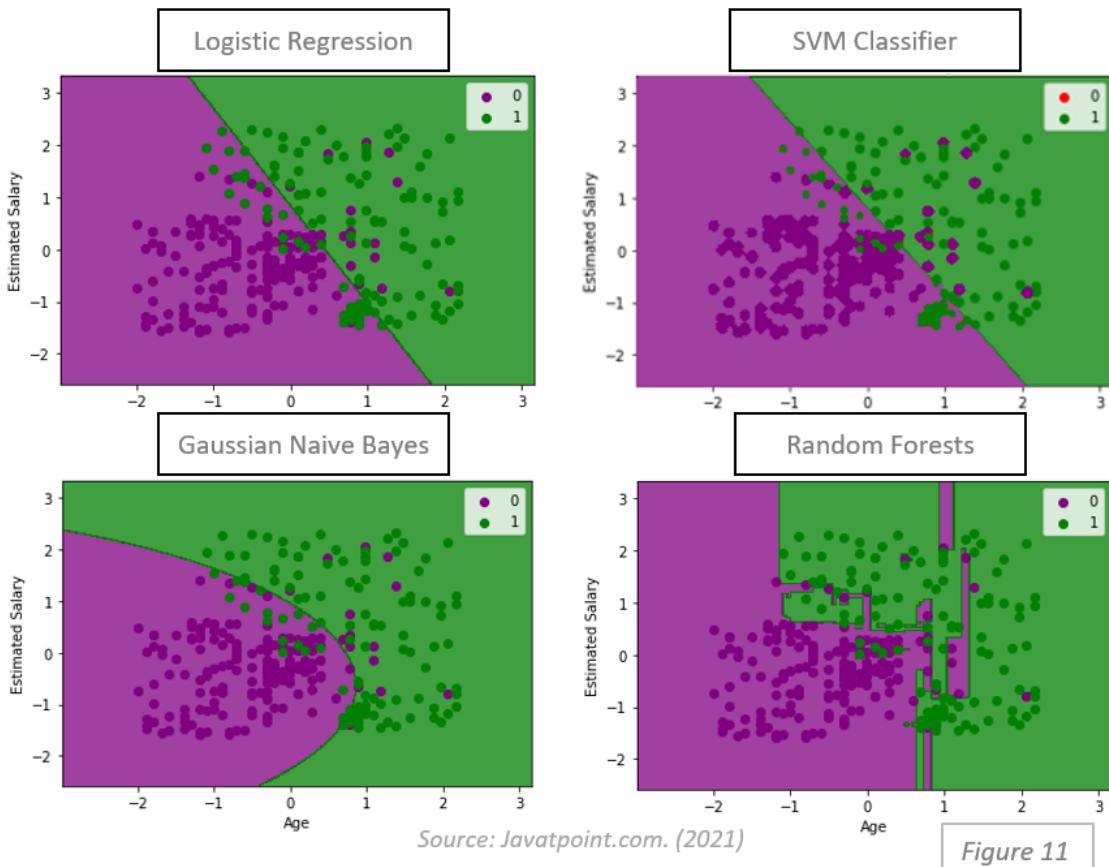


Figure 11

Logistic Regression is widely used, and relatively straightforward method for machine learning. Despite it's name, it's a classification algorithm and not a regression algorithm (Albon, 2019). Murphy (2012) explains how Logistic Regression differs to Linear Regression first where the Gaussian Distribution for y is replaced with a Bernoulli distribution, to allow for $y \in 0, 1$. Secondly, the Sigmoid function ensures $0 \leq \mu(x) \leq 1$. Hence, one can see an "S-shaped" curve, such as the one seen in Figure 3.

Support Vector Machine uses the kernel technique to transform data, then figures out how to separate the data based on predefined labels (KDnuggets, 2021). It then creates a hyperplane with the maximum margin that can separate an n-dimensional space into distinct classes. This is illustrated in a 2 dimensional space in Figure 4, while the datasets used in this paper were > 2 , and hence not displayable. Usually, only a small portion of the points are important when defining an SVM hyperplane. The points on the border are known as 'support vectors' (Muller & Guido, 2016). SVM is deployable for regression, classification and more. "Intuitively, a good separation is achieved by the hyperplane that has the largest distance to the nearest training data point of any class" (Wan & Mak, 2015).

The Guassian Naive Bayes Classifier calculates the probability of a point belonging to a class or not. It's often preferred over the other types as it requires little testing data, it's parituclarly fast and highly scalable. Naive Bayes figures out which class a datapoint has the highest probability of being a part of, and assigns it to this class. Hence, it is often plotted using a heatmap distribution, where the closer to the mean, the darker the circle. The size of the cirlce is then decided by the standard deviation. GNB is useful as it stores both the average values and the standard deviation (Muller & Guido, 2016).

The Random Forest Classifier is perhaps the easiest to understand theoretically. It's essentially a combination of decision trees. Firstly, a multitude of decisions are made using training data,

such as if $X1 \leq 4$, go left, if not, go right. The random forest classification inputs randomness when building individual trees in a hope of creating a forest of trees with no correlation. Rodriguez-Galiano et al. (2012) explain how Random Forests is a "powerful classifier", with "high classification accuracy and capability to determine variable importance.

6.2 Coding & Imports

Although this is a very large notebook with many chunks of code, only four python libraries were required to create/import data, organize and visualize the data and perform statistical analyses on each of the four datasets. As can be seen from the Imports, many of them came from the one library: sklearn (Scikit-learn outside of python code).

This library was the core of this analysis where it provided us with the ability to perform logistic, support vector machine, gaussian naïve bayes and random forest classification model. Not only this, but it provided us with all three of the real-world datasets (Iris, wine, and breast cancer). It also enabled us to calculate numerous different scores and other diagnostic checks to validate every model used on each dataset.

Pandas and seaborn were key to exploring and visualizing the datasets. Pandas enabled us to store our raw data as organized data frames so that python code could be easily performed on it. From here, we could then input these data frames into functions provided by seaborn to create visualisations such as pair plots and violin plots. Matplotlib.pyplot also enabled us to create confusion matrices to compare how well our predicted class fared against the true classes. The NumPy library was used to create a correlation matrix to calculate R-squared values for each classification model.

6.3 Pros & Cons of Datasets

Synthetic Dataset

The synthetic data created for this assignment was one with 3 classes, 300 samples and 6 features. In Section 2.1, the visualisation of the features show just how dispersed and overlapping the data is. Despite having only 1 cluster per class, the lack of any real grouping together makes this a difficult dataset to work with. The whole aspect of using a synthetic dataset is to see how a model fairs in predicting completely random data with no real-life patterns or affects. Therefore, this can be seen as both a pro and/or a con, depending on the interpreter of course. We believe that this enables a test of the models' true capability in predicting classifiers as there is no real pattern. However, this very same aspect limits the accuracy of the model i.e., the best model being the SVM with an R squared of 69% is still not the best score.

Iris Dataset

The iris dataset is a nonlinear dataset with 3 classes - setosa, virginica and versicolor. The dataset contains 4 features - petal length, petal width, sepal length and sepal width. This dataset contains 150 observations, so it's not insignificant but it's also not too big. It was also created by a celebrated statistician Sir Ronald Fisher in the 40s, almost ensuring the data is of good quality. When plotted using the pairplots in Section 3.1, one sees a clear limitation of the dataset: virginica and versicolor are clustered together. This makes the dataset a prime example to show

the limitations of unsupervised learning. However, as this paper is only focused on supervised learning, it wasn't necessarily an issue.

Wine Dataset

The wine dataset is a table that contains the results of analysing wines that were derived from three different cultivars but were grown in a common region in Italy. It's one that's similar in sample size to the Iris dataset with 177 rows. However, the wine dataset has much more features with 13. This makes it a bit more challenging to graphically represent. For instance, the a second violin plot had to be created to display all the features. However, one positive the wine dataset has is that there's little correlation between more X variables, despite a relatively high score of >.8 for phenols and flavonoids. If a dataset has a high correlation between independent variables, this will lead to multicollinearity.

Breast Cancer Dataset

This dataset is one with 2 classes, separated between 357 benign and 212 malignant with 30 features. In terms of positives for this dataset, it's a large sample size with no missing data. There are numerous variables to work with. On the other hand, although there is a very large sample size, more data is still preferable, especially considering the importance of accurate results in a study like this.

6.4 Findings & Conclusions

Synthetic

It was discovered that the SVM Model produced the best results in predicting the correct classes on the synthetic dataset. It produced the highest R squared value (0.69) which means that 69% of the variation of the data can be explained by the model. It also exceeded in other diagnostic checks such as the accuracy (0.88) and the K-fold (86.458%). It produced the lowest RMSE of 0.47. On the other hand, the worst model for correctly predicting the classes in the synthetic dataset was the Gaussian Naïve Bayes Model. It produced the worst R squared value of 0.34, the worst K-fold of 74.48%, the worst ROC AUC of 92.42. It also had the highest RMSE of 0.73.

Iris

It's clear that for the Iris dataset, the SVM model also produced the best results - similar to the synthetic dataset. It recorded an R squared value of 1. In comparison, the LR, GNB and RF classifiers had R squared values of .95, .95 and .93 respectively. The SVM model had an accuracy rate of 1, an RMSE average of 0 and an ROC of .99. It was also the only classifier which didn't misclassify any datapoints, while all three of the others had one misclassification each. In terms of worst performer, it was the Gaussian Naive Bayes. However, it had only slightly worse accuracy rate (.96), but also had the highest RMSE average of .118.

Wine

The GNB was clearly the best classification model for this dataset. It had the highest R-squared at 0.98 which means that 98% of the variation in the data was explained by the model. It also had the highest precision, recall and f1 score (0.96). However the SVM had the highest accuracy rate at 0.97.

In terms of identifying the least effective model, the SVM, random forest and random forest models were all very similar in terms of r-squared, accuracy and recall. However the SVM had the largest MSE (0.25) so it was determined that this was the least effective classification model.

Breast Cancer

6.5 Hints & Tips

As a result of the work done, we as a group have some final tips for logistic regression newcomers. Firstly, we found once we labelled every section numerically, the structure of the report improved. It also allowed us to easily reference each section when we discussed it. Similarly, practices such as using comments to label our code and using proper indentation will allow new readers to learn the process much quicker. Placing all our imported codes at the beginning also makes the report more accessible. While we initially struggled with embedding photos, Google Colab's feature of Insert Photo made importing photos quicker and simpler. Also, we found this article immensely helpful for our mathematical notations (Nelli, 2015). Furthermore, adding extra analysis techniques were particularly useful. The descriptive statistics in Section 1.2.1 gave us better insights into our datasets, while the accuracy rates allow us to evaluate the accuracy of our models.

When calculating the Naïve Bayes scores, we wanted to see if we could also include the use of Bernoulli and multinomial bayes. However, we learned that instead the accuracy rate of these tests plummeted substantially and upon researching further we learned that the Naïve Bayes are the best for purely numerical data sets, such as the ones we were using.

For sets with more than two or three variables, for example the breast cancer dataset, using pair plots matrixes allows those exploring the data to view multiple pairs of variables that they deem important. It would not be possible to view every dependant variable and its relationship on a single graph, overall, allowing for a fuller view of the variables and their relationships. This can also be said for the heatmaps as they provide a striking visual representation for those exploring the data.

If embarking on an exploratory data analysis of these datasets again, it would be frugal to organise the layout and display of the accuracy and testing scores in one central section as opposed to, splitting it up throughout the entire document. This was a time-frame concern and should be addressed in future activities.

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