import numpy as np

from pandas.\_typing import F

import pandas as pd

import pickle

from sklearn.linear\_model import Lasso

from sklearn.metrics import accuracy\_score, classification\_report, confusion\_matrix

from sklearn.experimental import enable\_iterative\_imputer

from sklearn.impute import IterativeImputer

from genetic\_selection import GeneticSelectionCV

from sklearn.tree import DecisionTreeClassifier

df = pd.read\_csv('yy.csv')

X=df.drop('num',axis=1)

y=df['num']

print("check whether the data has null values" , X.isnull().sum())

lr = Lasso()

imp=IterativeImputer(estimator=lr,verbose=2,max\_iter=330,tol=1e-10,imputation\_order='roman')

imp.fit(X)

a=imp.transform(X)

my\_array = np.array(a)

X = pd.DataFrame(my\_array)

print("as a dataframe", X)

print("check whether the data has null values" , X.isnull().sum())

estimator = DecisionTreeClassifier()

model1 = GeneticSelectionCV(

estimator, cv=5, verbose=0,

scoring="accuracy", max\_features=4,

n\_population=100, crossover\_proba=5,

mutation\_proba=0.05, n\_generations=18,

crossover\_independent\_proba=0.5,

mutation\_independent\_proba=0.04,

tournament\_size=8, n\_gen\_no\_change=10,

caching=True, n\_jobs=-1)

model2 = model1

model = model2.fit(X,y)

model.transform(X)

my\_array = np.array(X)

X = pd.DataFrame(my\_array)

print('Features:', X.columns[model.support\_==True])