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# Import your libraries and data

import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.ensemble import GradientBoostingClassifier
from sklearn.metrics import accuracy_score

data = pd.read_csv('C:/Users/PandaBas/Desktop/Personal/Teaching/5thSem_PartA
/bank_marketing.csv')
data.head()

# Choose the dependent and Independent variables
X = data[['age', 'marital', 'ever_defaulted', 'housing_loan', 'Personal_loan']]
Y = data[['y']]

# Train, test/validation split
X_train, X_test, y_train, y_test = train_test_split(X, Y, test_size = 0.20,
random_state = 42)
test_df = pd.concat ([X_test, y_test], axis =1 )

# Initialize and train your model
gbcl = GradientBoostingClassifier(random_state = 42)
gbcl.fit(X_train, y_train)

# Predict the test data based on the trained model
gbcl_pred = gbcl.predict(X_test)
accuracy_score(y_test, gbcl_pred)

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