

import pandas as pd

import numpy as np

from sklearn.linear\_model import LinearRegression

from fancyimpute import IterativeImputer

df = pd.read\_csv("C:/workspace/Python/TAREA10/data/Churn\_Modelling.csv")

df = df.drop(["RowNumber","CustomerId","Surname","CreditScore","Geography","Gender","Tenure","NumOfProducts","HasCrCard","IsActiveMember","EstimatedSalary"], axis=1)

# Reemplaza los valores "0" con NaN en todo el DataFrame

df.replace(0, np.nan, inplace=True)

# Selecciona las columnas a imputar

columns\_to\_impute = ["Balance", "Age", "Exited"]

df\_train = df[columns\_to\_impute]

print(df\_train)

# MICE utilizando fancyimpute

imputer = IterativeImputer(max\_iter=10, initial\_strategy='mean', estimator=LinearRegression())

df\_mice = pd.DataFrame(imputer.fit\_transform(df), columns=df.columns)

print("Imputación con MICE:")

print(df\_mice)