PLS REGRESSION

This code performs **PLS (Partial Least Squares) Regression** to predict the length of a product based on its type. Here are the steps it follows:

- Load the training and testing data as pandas dataframes using the read_csv method.Concatenate the training and testing data into a single dataframe using the concat method.

- Replace any NaN values with 0 using the fillna method.Select the features for training and testing. In this case, it is the 'PRODUCT_TYPE_ID' column.

- Split the training and testing data into features and targets.Instantiate a PLS Regression model with a specified number of components. In this case, n_components is set to 1.

- Fit the PLS Regression model on the training data using the fit method.Make predictions on the testing data using the predict method.

- Calculate the score (mean absolute percentage error) of the predictions using the mean_absolute_percentage_error method from scikit-learn.

- Print the score to the console.Create a submission file by creating a pandas dataframe with the predictions and product IDs, setting the index to the product IDs, and exporting the dataframe to a CSV file.

The tools used in this code are pandas for data manipulation, numpy for numerical computations, scikit-learn for PLS Regression and mean absolute percentage error calculations.