BAYESIAN RIDGE REGRESSION

This code uses **Bayesian Ridge Regression** to make predictions on the length of products.

- The required packages are imported, including pandas for data manipulation, BayesianRidge for the regression model, and mean_absolute_percentage_error for evaluating the model's accuracy.

- The training and testing data is loaded into pandas dataframes using the `read_csv` function.The training and testing data is concatenated into a single dataframe using the `concat` function, with `axis=0` to concatenate along rows and `ignore_index=True` to reset the index of the concatenated dataframe.

- Any missing values in the dataframe are replaced with 0 using the `fillna` function.

- The input features and target variable are extracted from the training and testing dataframes into separate variables using the `[['column_name']]` notation.An instance of the BayesianRidge regression model is created.

- The `fit` method of the BayesianRidge model is called, with the input features and target variable as arguments, to train the model.

- The `predict` method of the BayesianRidge model is called, with the input features of the test dataset as an argument, to generate predictions for the target variable.

- The mean absolute percentage error is calculated between the predicted and actual target variables using the `mean_absolute_percentage_error` function.

- The score is calculated by subtracting the mean absolute percentage error from 100 and taking the maximum of this value and 0.

- A submission file is created in CSV format using pandas dataframes, with the product ID and predicted target variable columns specified, and the index set to the product ID column. The submission file is saved to disk with the specified filename.