Functions used in the project

Library	Functions/Attributes	Use
pandas	`pd.read_csv()`	Read data from a CSV file.
pandas	`df.head()`	Display the first few rows of the DataFrame.
pandas	`df.tail()`	Display the last few rows of the DataFrame.
pandas	`df.shape`	Get the number of rows and columns in the DataFrame.
pandas	`df.columns`	Get the column names of the DataFrame.
pandas	`df.info()`	Display concise summary information about the DataFrame.
pandas	`pd.to_datetime()`	Convert the column to datetime format.
pandas	`df.describe()`	Generate descriptive statistics of the DataFrame.
pandas	`df.describe(include='object')`	Generate descriptive statistics for object-type columns.
pandas	`df.drop()`	Drop specified labels from rows or columns.
pandas	`df.dropna()`	Remove missing values.

pandas	`df['column_name'].value_counts()`	Count occurrences of unique values in a column.
matplotlib	`plt.figure()`, `plt.title()`, `plt.bar()`, `plt.show()`, `plt.plot()`, `plt.pie()`	Plotting functions for creating visualizations.
seaborn	`sns.countplot()`, `sns.barplot()`	Statistical data visualization based on Matplotlib.
seaborn	`sns.countplot()`, `sns.barplot()`, `sns.pieplot()`	Functions for creating specific types of statistical visualizations.
numpy	`np.unique()`, `np.sort()`	Array manipulation and operations.
datetime	`dt.month`	Extract the month from a datetime column.
datetime	`pd.to_datetime().dt.month`	Extract the month from a column converted to datetime format.
pandas	`df.groupby()`, `grouped['column'].mean()`	Group data and calculate the mean within each group.
pandas	`df.reset_index(), df.sort_values()`	Reset the index of a DataFrame and sort values.
matplotlib	`plt.figure(), plt.title(), plt.plot(), plt.legend()`	Functions for creating and customizing plots and visualizations.
pandas	`df.head(), df.tail(), df.shape, df.columns, df.info()`	Basic DataFrame exploration and information retrieval.
pandas	`df.describe(), df.describe(include='object')`	Descriptive statistics for numerical and object-type columns.

pandas	`df.drop(), df.dropna(), df.isnull(), df['column'].unique()`	Data cleaning and handling missing values.
pandas	`df['column'].value_counts(normalize=True)`	Count occurrences of unique values normalized to proportions.
pandas	`df[df['condition']]`	Conditional subsetting of the DataFrame based on a condition.
pandas	`df['column'].dtypes`	Get the data type of a specific column.
pandas	`df['column'].sum(), df['column'].mean()`	Calculate the sum and mean of a numerical column.
pandas	`df['column'].plot(kind='bar')`	Plot a bar chart for a specific column.
pandas	`pd.to_datetime()`	Convert a column to datetime format.
seaborn	`sns.barplot(), sns.countplot(), sns.pieplot()`	Statistical data visualization using seaborn.
numpy	`np.arange()`	Create an array with regularly spaced values.
datetime	`pd.to_datetime(), dt.month`	Manipulate and extract information from datetime objects.
sklearn	`sklearn.model_selection.train_test_split()`	Split data into training and testing sets.
sklearn	`sklearn.preprocessing.StandardScaler()`	Standardize features by removing the mean and scaling to unit variance.