**Code Explanation**

**AI Assignment # 1**

**Step 1: Importing Libraries**

The project begins by importing necessary tools:

* A library to handle datasets (tables and CSV files).
* A function to split the data into training and testing parts.
* A machine learning algorithm for predicting numbers (Support Vector Regression).
* A tool to save and reload trained models.

**Step 2: Data Loader**

A class is created to load the dataset from a CSV file.  
It can:

* Show the first few rows of the data.
* Show the last few rows.
* Give a statistical summary (like averages, min, max).
* Display information about columns (like their types and missing values).

This step is mainly for **reading and exploring the raw data**.

**Step 3: Data Preprocessor**

A class is built to clean and prepare the data.  
It can:

* Check if any values are missing.
* Fill missing numbers with the average value of that column.
* Convert text-based data (like categories) into numbers so the model can understand it.

This ensures the data is **clean and numeric** before training.

**Step 4: Data Splitter**

Another class is made to split the dataset.  
It separates the data into:

* **Inputs (features)** → what we use to make predictions.
* **Target (output)** → what we want to predict (like salary).

Then it divides the data into **training data** (used to teach the model) and **testing data** (used to check accuracy).

**Step 5: Salary Model**

A class is created to build and train the prediction model.

* It uses a regression algorithm (Support Vector Regression) to learn from the training data.
* After training, the model can predict salaries based on input features.