Activity 2

**AIM:** Construct a feedforward neural network to predict housing prices based on the provided

dataset. Include input normalization, hidden layers with appropriate activation

functions, and an output layer. Train the network using backpropagation and evaluate its

performance using Mean Squared Error (MSE)

**List of Hardware/Software used:** Windows OS

VS code

**PROCEDURE:**

#### Step 1: Open Visual Studio Code

* Launch Visual Studio Code.

**Step 2: Create a new Python file**

* Create a new Python file and name it housing\_prices\_prediction.py

**Step 3: Install required libraries**

* Install the necessary Python libraries by running the following commands in the terminal:

**Step 4: Load the Dataset**

* Use pandas to load the dataset from a CSV file.

**Step 5: Encode Categorical Variables**

* Convert categorical variables into numerical values using one-hot encoding.

**Step 6: Scale/Normalize Features**

* Apply standardization to features using StandardScaler

**Step 7: Define the Neural Network Model**

* Build the neural network using PyTorch.

**Step 8: Train the Model**

* Train the model using backpropagation.

**Step 9: Evaluate the Model\**

**Mean Squared Error (MSE):** The MSE of the model on the test dataset will be printed after training. This metric helps to understand the model's performance.

**OUTPUT:**