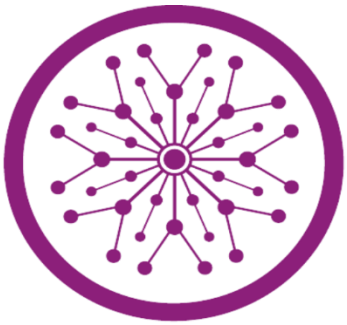


Name: Muhammad-Jawad-Haider

Roll No.: SU92-BSAIM-F24-056

Section: BSAI-3A

Subject: Artificial Intelligence

Department: Software Engineering

Project: Student Performance Prediction

Assignment: 2

Student Performance Prediction (Model Building)

Objective:

The aim of this assignment is to build a simple regression model that can predict a student's total marks (out of 100) based on their assignment, quiz, mid-term, final, attendance, and study hours.

Steps Performed:

1. **Imported necessary libraries** – pandas, scikit-learn.
2. **Loaded the clean dataset** created in Assignment 1.
3. **Separated features and target variable** (X and y).
4. **Split the data** into training and testing sets using train_test_split.
5. **Trained a Linear Regression model** on the training data.
6. **Accepted user input** for new student details (marks, attendance, hours).
7. **Created a Data Frame** from user input to match training format.
8. **Predicted total marks** using the trained model and printed the result.

Example Output:

--- Enter Student Details ---

Assignment Marks (out of 10): 8

Quiz Marks (out of 10): 7

Attendance Percentage (0-100): 85

Mid Marks (out of 30): 22

Final Marks (out of 40): 30

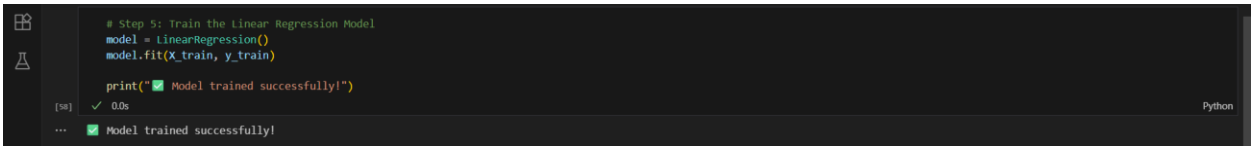
Study Hours per Day: 4

Predicted Total Marks: 82.45 / 100

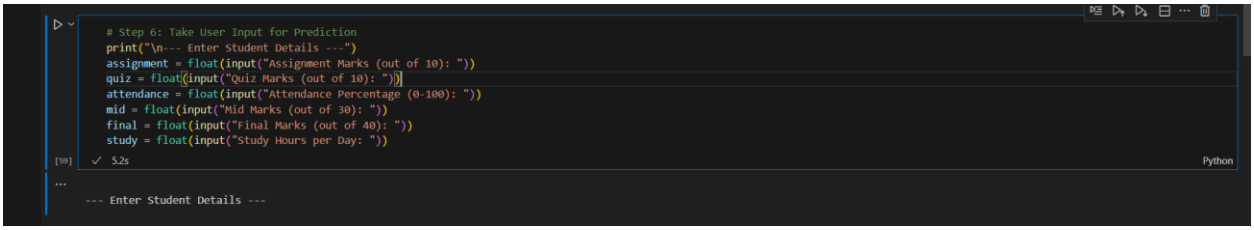
Conclusion:

The Linear Regression model successfully predicts students' overall performance.
By entering new marks and study hours, we can estimate a student's total marks out of 100.
This project demonstrates a basic example of supervised machine learning using regression.

- **Model Train:**



- **User Inputs:**



- **Final Predictions:**