Home Assignment <7>: Managing Student Record

Learning Objective:

The objective of this assignment is to understand how to represent real-world entities using Python classes, define attributes, implement methods for actions, and manage multiple objects.

Expected Completion Time:

Best Case: 15 minutes
Average Case: 20 minutes

Assignment Details:

Create a Python program to represent students with attributes and actions, and manage multiple student records using classes and objects.

Requirements:

a) Create a class named `Student`.
b) Inside the class, define the following attributes:

1. `name` → string
2. `grade` → string
3. `department` → string

c) Implement the following methods:

1. `print_info()` → prints all details of the student.
2. `update_grade(new_grade)` → updates the student's grade.

d) In the main section (`if __name__ == "__main__":`):

- Create at least three `Student` objects with different details.
- Print each student's information.
- Update the grade of one student and print the updated details.
- Manage and display multiple student records separately.

Hints to Solve:

- Use the `__init__` method to initialize the attributes when creating a new student.
- Use `self.attribute_name` to access or update values inside the class.
- Store multiple students in a list for easy management and iteration.

Expected Outcome:

Upon completion of this assignment, you should be able to:

- Create and initialize a Python class with attributes.
- Implement methods to perform actions on class objects.
- Instantiate multiple objects and manage them separately.
- Apply OOP principles to represent and handle real-world data.