

Day 5 Task

You are tasked with creating a simple Student Management System to organize and manage student information. The system should allow the user to add new students, view a list of all students, search for a specific student, and perform basic operations on student data.

Additionally, you need to implement error handling to ensure the program runs smoothly even when unexpected inputs are provided.

Task Breakdown:

Create a Student Class:

1. Define a Student class with the following attributes: name, roll_number, marks.
Ensure that each student roll_number must be unique
Implement the `__init__` method to initialize these attributes.
Implement the `__str__` method to provide a string representation of the student.
2. List to Store Students:
Create an empty list to store student objects.
3. Add Students:
Implement a function to take user input for adding new students. Use error handling to validate input data (e.g., ensure marks are numeric). Create a new Student object with the entered information and add it to the list.
4. View All Students:
Implement a function to display information about all students in the list. Ensure the list is formatted neatly.
5. Search for a Student:
Implement a function to search for a student by their roll number. Display relevant information if the student is found. Provide appropriate messages if the student is not found.
6. Update Student Information:
Implement a function to update the information of a specific student. Use error handling to handle cases where the entered roll number is not found.
7. Delete a Student:

Implement a function to delete a student based on their roll number. Display a message if the student is not found.

8. Sorting:

While displaying the student details. Sort the details on the basis of their marks

9. Exception handling:

Implement try-except blocks to handle potential errors, such as non-numeric input for marks or invalid roll numbers.

10. User Interface:

Create a simple command-line interface to interact with the Student Management System. Provide options for adding, viewing, searching, updating, and deleting students. Include an option to exit the program.