```python
import csv

FILE_NAME = "students.csv"

# Create the file with header if not present
def initialize_file():
    try:
        with open(FILE_NAME, 'x', newline='') as file:
            writer = csv.writer(file)
            writer.writerow(["Roll No", "Name", "Marks1", "Marks2", "Marks3", "Total", "Percentage", "Grade"])
    except FileExistsError:
        pass

def calculate_grade(percentage):
    if percentage >= 90:
        return "A+"
    elif percentage >= 80:
        return "A"
    elif percentage >= 70:
        return "B"
    elif percentage >= 60:
        return "C"
    elif percentage >= 50:
        return "D"
    else:
        return "F"

def add_student():
    roll = input("Enter Roll Number: ")
    name = input("Enter Student Name: ")
    m1 = float(input("Enter Marks 1 (out of 100): "))
```

```python
    m2 = float(input("Enter Marks 2 (out of 100): "))
    m3 = float(input("Enter Marks 3 (out of 100): "))

    total = m1 + m2 + m3
    #marks percentage
    percentage = total / 3
    #calling calculate_grade to fid grade of the student
    grade = calculate_grade(percentage)

    with open(FILE_NAME, 'a', newline='') as file:
        writer = csv.writer(file)
        writer.writerow([roll, name, m1, m2, m3, total, percentage, grade])

    print("Student record added successfully!\n")

def view_all_students():
    try:
        with open(FILE_NAME, 'r') as file:
            reader = csv.reader(file)
            for row in reader:
                print(row)
        print()
    except FileNotFoundError:
        print("No student records found!\n")

def search_student():
    roll = input("Enter Roll Number to search: ")
    found = False

    try:
        with open(FILE_NAME, 'r') as file:
            reader = csv.reader(file)
```

```python
            with open(FILE_NAME, 'r') as file:
                reader = csv.reader(file)
                for row in reader:
                    if row[0] == roll:
                        print("Student Found:")
                        print(row)
                        found = True
                        break

            if not found:
                print("Student not found!\n")

        except FileNotFoundError:
            print("No records available!\n")

def main():
    initialize_file()

    while True:
        print("------ Student Result Management ------")
        print("1. Add Student Result")
        print("2. View All Students")
        print("3. Search Student by Roll No")
        print("4. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            add_student()
        elif choice == '2':
            view_all_students()
        elif choice == '3':
```

```python
        print("2. View All Students")
        print("3. Search Student by Roll No")
        print("4. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            add_student()
        elif choice == '2':
            view_all_students()
        elif choice == '3':
            search_student()
        elif choice == '4':
            print("Thank you! Exiting...")
            break
        else:
            print("Invalid option! Try again.\n")


if __name__ == "__main__":
    main()
```

```
------ Student Result Management ------
1. Add Student Result
2. View All Students
3. Search Student by Roll No
4. Exit
Enter your choice: 4
Thank you! Exiting...
```

```
                    4. Exit
                    Enter your choice: 1
                    Enter Roll Number: 2
                    Enter Student Name: AASHUU
                    Enter Marks 1 (out of 100): 99
                    Enter Marks 2 (out of 100): 97
                    Enter Marks 3 (out of 100): 96
                    Student record added successfully!

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
                    Enter your choice: 1
                    Enter Roll Number: 3
                    Enter Student Name: AYUSH
                    Enter Marks 1 (out of 100): 100
                    Enter Marks 2 (out of 100): 92
                    Enter Marks 3 (out of 100): 94
                    Student record added successfully!

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
                    Enter your choice: 2
                    ['Roll No', 'Name', 'Marks1', 'Marks2', 'Marks3', 'Total', 'Percentage', 'Grade']
                    ['2', 'AASHUU', '99.0', '97.0', '96.0', '292.0', '97.33333333333333', 'A+']
                    ['3', 'AYUSH', '100.0', '92.0', '94.0', '286.0', '95.33333333333333', 'A+']

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
```

Variables   Terminal   10:51PM   Python 3

```
                    Student record added successfully!

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
                    Enter your choice: 2
                    ['Roll No', 'Name', 'Marks1', 'Marks2', 'Marks3', 'Total', 'Percentage', 'Grade']
                    ['2', 'AASHUU', '99.0', '97.0', '96.0', '292.0', '97.33333333333333', 'A+']
                    ['3', 'AYUSH', '100.0', '92.0', '94.0', '286.0', '95.33333333333333', 'A+']

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
                    Enter your choice: 3
                    Enter Roll Number to search: 2
                    Student Found:
                    ['2', 'AASHUU', '99.0', '97.0', '96.0', '292.0', '97.33333333333333', 'A+']
                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
                    Enter your choice: 3
                    Enter Roll Number to search: 66
                    Student not found!

                    ------ Student Result Management ------
                    1. Add Student Result
                    2. View All Students
                    3. Search Student by Roll No
                    4. Exit
```

Variables   Terminal   10:51PM   Python 3