A

PROJECT REPORT

ON

"STUDENT REPORT CARD SYSTEM"

SUBMITTED BY:

Mr. Ayush Sanjay Deore

PRN No. 2124UCEM1091

SUBJECT:

PROGRAMMING AND

PROBLEM SOLVING

USING C++

Under the guidance of

Miss. ISHWARI TIRSE

Department of Computer Science and Engineering

Sanjivani Rural Education Society's

SANJIVANI UNIVERSITY

KOPARGAON – 423603, DIST : AHMEDNAGAR

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INTRODUCTION

The Student Report Card System is a software application designed to manage and process the academic performance of students. This system allows users, such as teachers or administrators, to input student details, including their names, roll numbers, and marks obtained in various subjects. The system then automatically calculates the total marks, average marks, and assigns a grade based on the student's performance. It provides a structured and efficient way to generate report cards, making it easier to track and evaluate student progress.

- **The primary goal of the system is to:**

- Simplify the process of calculating and managing student mark.
- Provide an accurate and automated way of calculating grades.
- Allow quick access to individual student performance records.
- Determine the grade based on the average marks.
- This system can be extended to handle multiple students, making it a useful tool in educational institutions.

CODE

```
 #include <iostream>
using namespace std;

string name;
int rollNo;
int numSubjects;
float marks[100];
float totalMarks;
float average;
string grade;

void addStudent()
 {
   cout << "Enter Student Name: ";
   cin >> name;
   cout << "Enter Roll Number: ";
   cin >> rollNo;
   cout << "Enter number of subjects: ";
   cin >> numSubjects;

   totalMarks = 0;
   for (int i = 0; i < numSubjects; i++)
 {
      cout << "Enter marks for Subject " << i + 1 << ": ";
      cin >> marks[i];
      totalMarks += marks[i];
   }

   average = totalMarks / numSubjects;
```

```
if (average >= 90) {
        grade = "A";
} else if (average >= 80) {
        grade = "B";
} else if (average >= 70) {
        grade = "C";
} else if (average >= 60) {
        grade = "D";
} else {
        grade = "F";
}
cout << "Student added successfully!\n";
}

void displayReportCard()
 {
    cout << "-----------------------------------------\n";
    cout << "Report Card for: " << name << "\n";
    cout << "Roll Number: " << rollNo << "\n";
    cout << "-----------------------------------------\n";
    cout << "Marks:\n";

for (int i = 0; i < numSubjects; i++)
    {
    cout << "Subject " << i + 1 << ": " << marks[i] << ".00\n";
    }
     cout << "-----------------------------------------\n";
     cout << "Total Marks: " << totalMarks << ".00\n";
     cout << "Average Marks: " << average << ".00\n";
     cout << "Grade: " << grade << "\n";
     cout << "-----------------------------------------\n";
}
```

```
int main() {
   int choice;

   do {
      cout << "Student Report Card System\n";
      cout << "1. Add Student\n";
      cout << "2. Display Report Card\n";
      cout << "3. Exit\n";
      cout << "Enter your choice (1-3): ";
      cin >> choice;

      switch (choice) {

         case 1:
            addStudent();
            break;

         case 2:
            displayReportCard();
            break;

         case 3:
            cout << "Exiting the system..!\n";
            break;
            default:
            cout << "Invalid choice. Please try again.\n";
      }
   }
    while (choice != 3);

   return 0;
}
```

Key Features:

1. ***Add student details:*** Add a student's name, roll number, and grades for multiple subjects.

2. ***Calculate total and average marks:*** Automatically compute the total and average marks for each student.

3. ***Assign grades:*** Grade students based on their average marks.

4. ***Display student report card:*** Print the complete report card including the total marks, average marks, and grade.

How It Works:

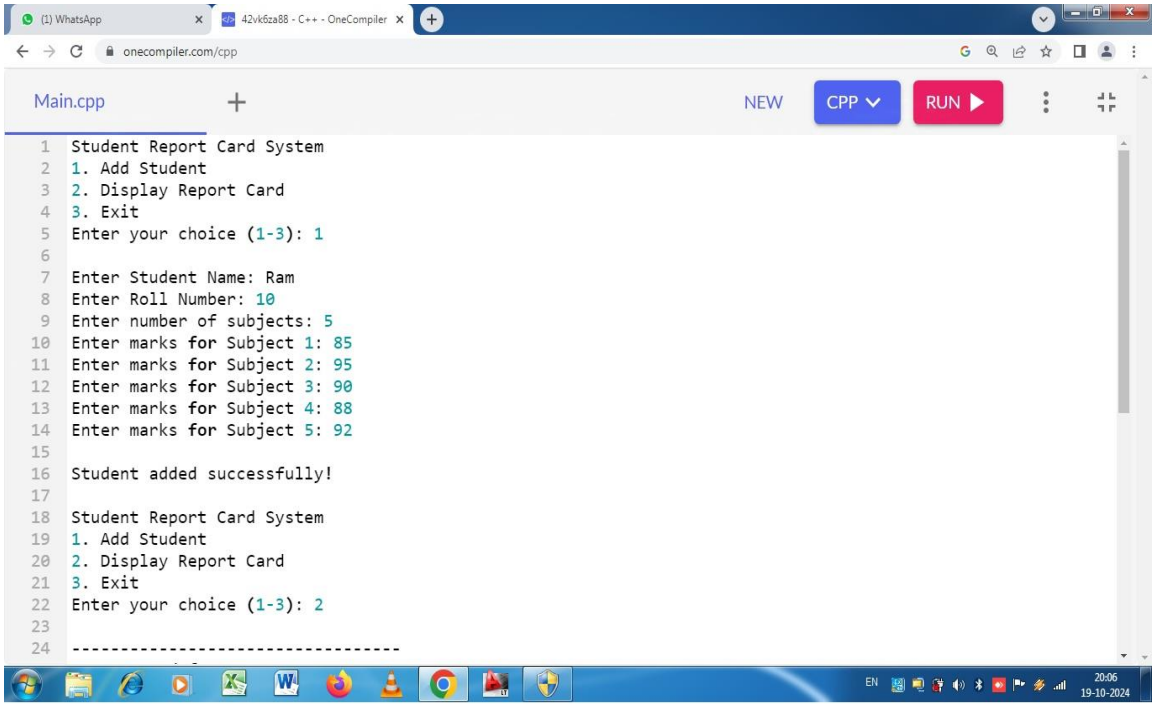
1. Add Student:
The user provides student details such as name, roll number, and marks for each subject. These details are stored and then it automatically calculates total and average marks, as well as assigns a grade.

2. Display Report Card:
The system lists all students and their report cards. Each report card contains subject-wise marks, total marks, average marks, and the final grade.

3. Grade Calculation:
The grades are assigned based on average marks, as outlined in the assignGrade() function. Students who score below 45% will receive a failing grade (F).

4. Exit:
The user can exit the system at any time by selecting option 3.

OUTPUT



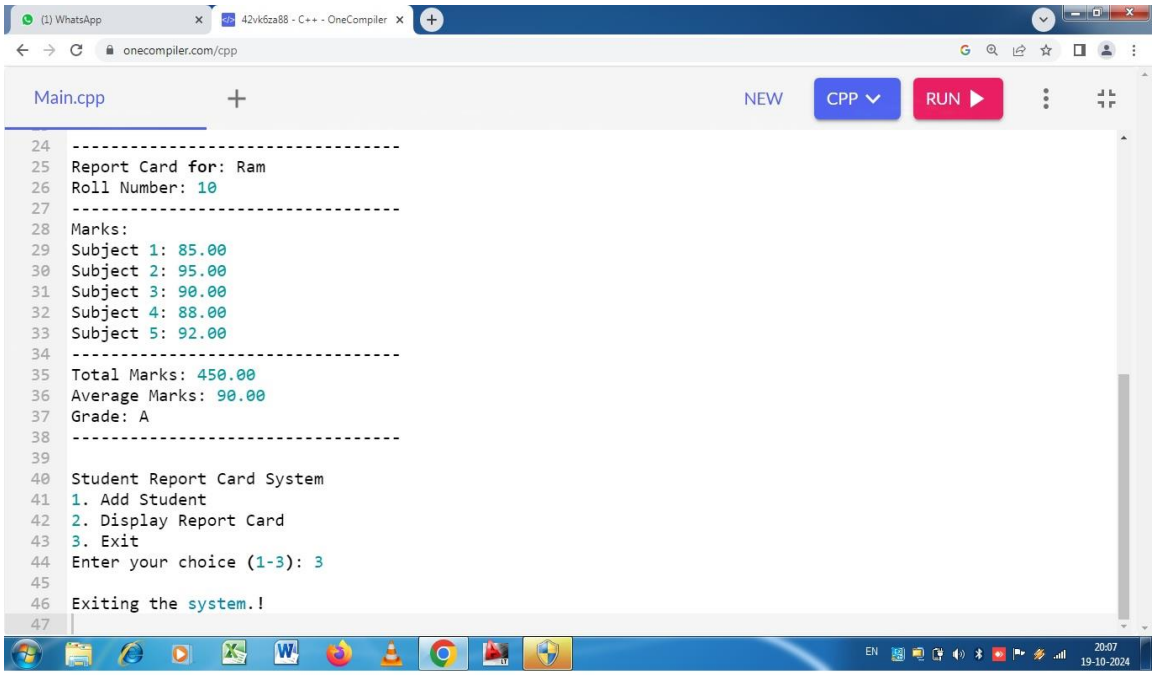
```
Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 1

Enter Student Name: Ram
Enter Roll Number: 10
Enter number of subjects: 5
Enter marks for Subject 1: 85
Enter marks for Subject 2: 95
Enter marks for Subject 3: 90
Enter marks for Subject 4: 88
Enter marks for Subject 5: 92

Student added successfully!

Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 2

---------------------------------
```

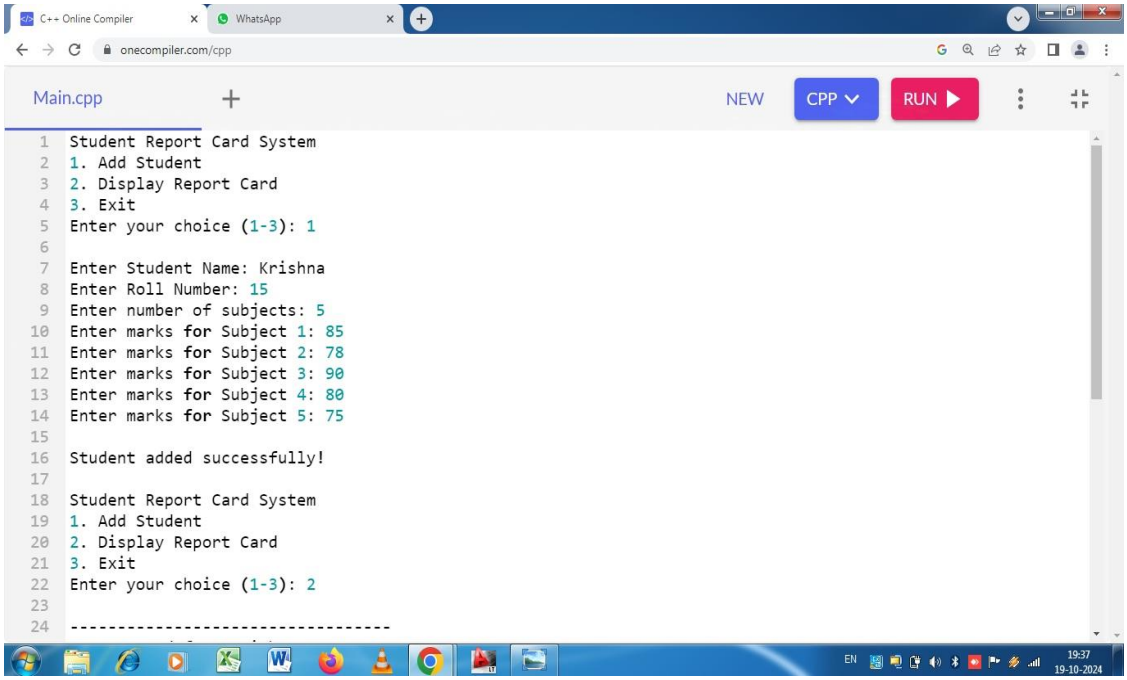


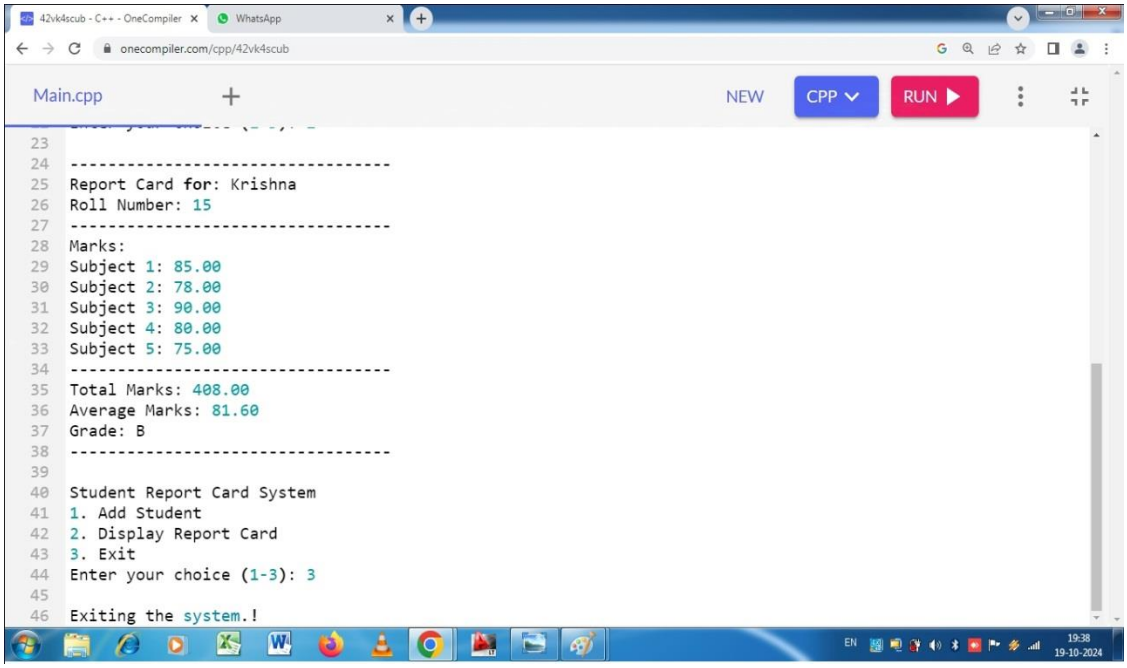
```
---------------------------------
Report Card for: Ram
Roll Number: 10
---------------------------------
Marks:
Subject 1: 85.00
Subject 2: 95.00
Subject 3: 90.00
Subject 4: 88.00
Subject 5: 92.00
---------------------------------
Total Marks: 450.00
Average Marks: 90.00
Grade: A
---------------------------------

Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 3

Exiting the system.!
```

EXAMPLE


C++ Online Compiler
WhatsApp
onecompiler.com/cpp
Main.cpp
NEW
CPP
RUN
Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 1
Enter Student Name: Krishna
Enter Roll Number: 15
Enter number of subjects: 5
Enter marks for Subject 1: 85
Enter marks for Subject 2: 78
Enter marks for Subject 3: 90
Enter marks for Subject 4: 80
Enter marks for Subject 5: 75
Student added successfully!
Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 2
19:37
19-10-2024


42vk4scub - C++ - OneCompiler
WhatsApp
onecompiler.com/cpp/42vk4scub
Main.cpp
NEW
CPP
RUN
Report Card for: Krishna
Roll Number: 15
Marks:
Subject 1: 85.00
Subject 2: 78.00
Subject 3: 90.00
Subject 4: 80.00
Subject 5: 75.00
Total Marks: 408.00
Average Marks: 81.60
Grade: B
Student Report Card System
1. Add Student
2. Display Report Card
3. Exit
Enter your choice (1-3): 3
Exiting the system.!
19:38
19-10-2024

CONCLUSION

In conclusion, the Student Report Card System in C++ is an efficient and user-friendly tool designed to automate the process of managing student performance data. It simplifies the tasks of calculating total and average marks, assigning grades, and generating report cards. By reducing manual errors and saving time, it provides an effective solution for educational institutions to track student progress. The system's structured design ensures that it can handle multiple students with ease, making it a valuable resource for teachers and administrators alike.