

MINI PROJECT REPORT

18CSC202J-OBJECT ORIENTED DESIGN PROGRAMMING

Submitted by

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in partial satisfaction of the requirements for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE ENGINEERING



SCHOOL OF COMPUTING

COLLEGE OF ENGINEERING AND TECHNOLOGY

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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NOVEMBER 2022

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Student Report Card Management System in C++

1. Introduction about the project

The **Student Report Card Management System in C++** is a desktop application coded in a **C++** programming language. The project contains basic functionality that allow user to generate the student report card. This project was created to fasten the distribution of grade record to each student. This will make it easier for the teacher to compute the General Average for the student grade. This **Student Report Card Management System** is a simple project that benefit students taking computer related course.

2. What is a Student Report Card?

The Student Report Card are required in education system that uses some form of reporting to identify student's performance. All Report cards are list of marks scored that analyst the student capabilities to each subject such as: Math, English, Science, etc.

3. What is the Purpose of Report Card?

Report cards are a great way for parents to monitor a child performance in school. The sole purpose of report cards is to generate an information from school to parents to report about the overall student's educational progress.

The key features and the functions used for the Student Report Card Management are:

1. **Create new Student Data:** This feature creates a new student record containing his marks. void Add(); function is used to take input from the user. For this the information to be provided are the name and roll no. of the student, and the marks obtained by him/her in 5 subjects – english, history, geography, science, maths.

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2. **Delete student record:** void delete(int); function deletes the report card record of a particular student; it first of all asks for the name and roll no. of the student whose record is to be deleted.

3. **Read specific student's report card record:** This feature is the same as the one

explained above, except it shows the progress report and relevant data related to a particular student. `void PrintReport(int)` is used for this purpose.

4. Display all students' grade report: This feature enlists all the students' record saved in file. The grade report is displayed in a tabular form with roll no. and name of the students, marks achieved in the five subjects, and the grade and percentage obtained by them. `void showstats();` is thus used.

4. Header Files Used

Student report card system is a very simple project that runs with just three header files. Here, are the header files required for this project:

1. `#include<iostream>`

It is used as stream of input and output using `cin` and `cout`.

2. `#include<string>`

The `string.h` header defines one variable type, one macro, and various functions for manipulating arrays of characters.

3. `#include<vector>`

Vectors are used to store elements of similar data types. However, unlike arrays, the size of a vector can grow dynamically. That is, we can change the size of the vector during the execution of a program as per our requirements. Vectors are part of the C++ Standard Template Library.

5. Functions Used

1. `void InsertData`

2. `void Report()`

3.void Add()

4.void Delete(int roll)

5.PrintReport(roll)

6.ShowStats()

7.int GetRoll()

8.void Report()

6. Demo and Discussion

When we run the program , the user is welcomed with an introduction screen.This is the main menu of our program.It works as a heart of the operation.

```
STUDENT REPORT DATABASE MANAGEMENT
=====
1. ADD NEW STUDENT DATA
2. DELETE STUDENT DATA
3. PRINT REPORT
4. DATABASE STATS
0. EXIT
YOUR CHOICE: █
```

The menu screen has options to Add new student data , Delete particular student data, Print report of particular student , show the full database , and exit the program.

1. ADD NEW STUDENT DATA:

This will add new data of students in the database and store it.

```
1. ADD NEW STUDENT DATA
2. DELETE STUDENT DATA
3. PRINT REPORT
4. DATABASE STATS
0. EXIT
YOUR CHOICE: 1

PLEASE ENTER THE DETAILS OF THE STUDENT:
NAME: Vishal
ROLL: 576
MARKS IN ENGLISH, HISTORY, GEOGRAPHY, SCIENCE AND MATHS: 50 60 70 80 90

STUDENT DATA ADDED TO DATABASE

1. ADD NEW STUDENT DATA
2. DELETE STUDENT DATA
3. PRINT REPORT
4. DATABASE STATS
0. EXIT
YOUR CHOICE: █
```

2. DELETE STUDENT DATA :

This will delete data of particular students sorted by roll number.

```
1. ADD NEW STUDENT DATA
2. DELETE STUDENT DATA
3. PRINT REPORT
4. DATABASE STATS
0. EXIT
YOUR CHOICE: 2
ROLL: 576

STUDENT WITH ROLL 576 HAS BEEN REMOVED FROM THE DATABASE
```

3. PRINT REPORT :

This will print the report of the particular student we want sorted by roll number.

```
1. ADD NEW STUDENT DATA
2. DELETE STUDENT DATA
3. PRINT REPORT
4. DATABASE STATS
0. EXIT
```

YOUR CHOICE: 3

ROLL: 576

STUDENT REPORT
=====

Name: Vishal
Roll: 576
English Marks: 50
History Marks: 60
Geography Marks: 70
Science Marks: 80
Maths Marks: 90
Average Marks: 70
GPA: 7

4. DATABASE STATS :

This will print all the data stored in the database.

```
Name: Vishal
Roll: 576
English Marks: 50
History Marks: 60
Geography Marks: 70
Science Marks: 80
Maths Marks: 90
Average Marks: 70
GPA: 7
```

5. EXIT :

This will end the program.

```
Name: Himesh
Roll: 5
English Marks: 50
History Marks: 40
Geography Marks: 30
Science Marks: 20
Maths Marks: 10
Average Marks: 30
GPA: 3
```

5. EXIT :

This ends the program.

7. CONCLUSION

This report contains the Student Report Card Management project made using C++ by Vishal GHosh, CSE B.Tech submitting for our Object-Oriented Programming using C++ mini project in the academic year 2022-23.