INSTRUCTIONS:

1. The project report should be neatly typed.
2. Avoid using Abbreviations.
3. The text should be justified and typed in the Font style ‘Times New Roman’ and Font size ‘12’.
4. Heading and subheading should be bold.
5. The length of the report may be about 10 to 15 pages.

DON BOSCO INSTITUTE OF TECHNOLOGY

Skill Lab: C++ and Java Programming
MINI PROJECT REPORT

On

“Title of mini-project”
2021-22

Submitted By: Tejas Rokade 43

Guided
Ms. Deepali Kayande

Mini Project Title : **Student Management System**

Institute Name : Don Bosco Institute of Technology.

Institute Address : Premier Automobiles Road,
Kurla (West), Mumbai – 400070

Department : **EXTC**

Class : **Second Year**

Project Group Members :

	Names of students	Roll No.
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3.	Sanskar Kumar	35
4.	Suraj Das	42

Date of Submission :15 December 2021

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INTRODUCTION

Student Management System (SMS) is a solution tool that is designed to track, maintain and manage all the data generated by a School, including the grades of a student, their attendance, their interpersonal activities records, etc.,"

SMS acts as the bottom-line database to store all the day-to-day school operations, maintain the proper records of the past few decades, regulate the various operation modules, managing the critical tasks, efficiently handling the administrative processes.

CODE:

```
#include <iostream>
#include <fstream>
#include <iomanip> #include
<stdlib.h>

using namespace std;

class Student
{
int admno;
char name[20];
char gender;
int std;
float marks;
float percentage;

public:
void getData();
void showData();
int getAdmno() { return admno; }
} s;

void Student::getData()
{
cout << "\n\nEnter Student Details.....\n";
cout << "Enter Admission No.  : ";
cin >> admno;
cout << "Enter Full Name  : ";
cin.ignore();
cin.getline(name, 20);
cout << "Enter Gender (M/F)  : ";  cin >>
gender;
cout << "Enter Standard  : ";
```

```
cin >> std;      cout << "Enter Marks (out
of 500): ";           cin >> marks;
cout << endl;
percentage = marks * 100.0 / 500.00;
}
void
Student::showData()
{
cout << "\n\n.......Student Details......\n";
cout << "Admission No.     : " << admno << endl;
cout << "Full Name         : " << name << endl;     cout
<< "Gender           : " << gender << endl;     cout <<
"Standard         : " << std << endl;
cout << "Marks (out of 500): " << marks << endl;
cout << "Percentage        : " << percentage << endl;
cout << endl;
}

void addData()
{
ofstream fout;
fout.open("Students.dat", ios::binary | ios::out | ios::app);
s.getData();
fout.write((char *)&s, sizeof(s));
fout.close();
cout << "\n\nData Successfully Saved to File....\n";
}

void displayData()
{
ifstream fin;
fin.open("Students.dat", ios::in | ios::binary);      while
(fin.read((char *)&s, sizeof(s)))
{
```

```
                    s.showData();
                    }
                fin.close();
cout << "\n\nData Reading from File Successfully Done....\n";
                }
                void
            searchData()
                {   int n,
        flag = 0;
                ifstream fin;
    fin.open("Students.dat", ios::in | ios::binary);      cout <<
"Enter Admission Number you want to search : ";        cin >> n;

            while (fin.read((char *)&s, sizeof(s)))
                {
            if (n == s.getAdmno())
                {
    cout << "The Details of Admission No. " << n << " shown herewith:\n";
                s.showData();
                flag++;
                }
                }
            fin.close();
            if (flag == 0)
    cout << "The Admission No. " << n << " not found....\n\n";
cout << "\n\nData Reading from File Successfully Done....\n";
                }
                void
            deleteData()
                {   int n, flag
      = 0;       ifstream fin;
        ofstream fout, tout;
        fin.open("Students.dat",
      ios::in | ios::binary);
```

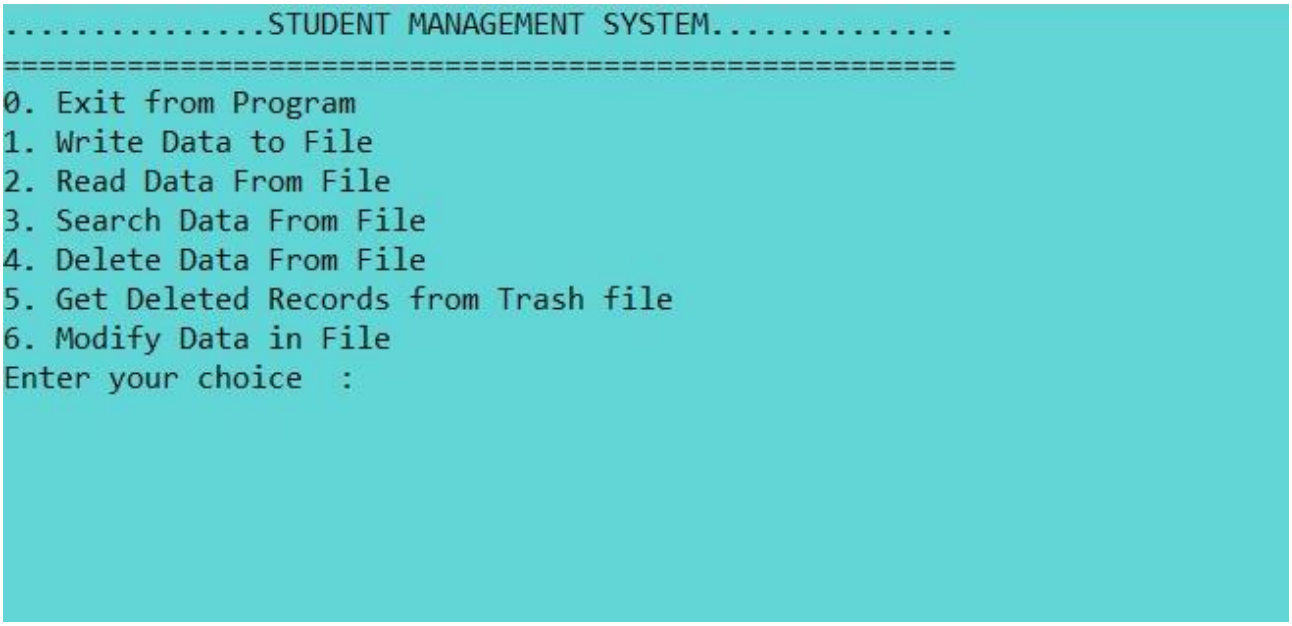
```
fout.open("TempStud.dat", ios::out | ios::app | ios::binary);
tout.open("TrashStud.dat", ios::out | ios::app | ios::binary);

cout << "Enter Admission Number you want to move to Trash : ";
cin >> n;

while (fin.read((char *)&s, sizeof(s)))
{
if (n == s.getAdmno())
{
cout << "The Following Admission No. " << n << " has been moved to Trash:\n";
s.showData();
tout.write((char *)&s, sizeof(s));
flag++;
}
else
{
fout.write((char *)&s, sizeof(s));
}
}
fout.close();
tout.close();
fin.close();
if (flag == 0)
cout << "The Admission No. " << n << " not found....\n\n";
remove("Students.dat");  rename("tempStud.dat", "Students.dat");
}

void getTrash()
{
ifstream fin;
fin.open("TrashStud.dat", ios::in | ios::binary);  while (fin.read((char *)&s, sizeof(s)))
```

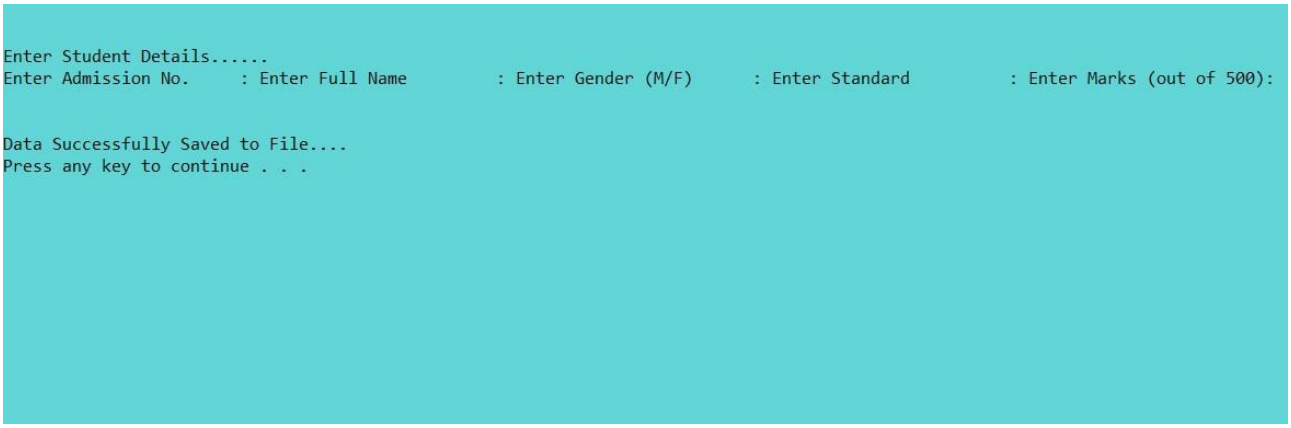
```
{
s.showData();
}
fin.close();
cout << "\n\nData Reading from Trash File Successfully Done....\n";
}
void
modifyData()
{
int n, flag = 0, pos;  fstream fio;

fio.open("Students.dat", ios::in | ios::out | ios::binary);

cout << "Enter Admission Number you want to Modify : ";      cin
>> n;

while (fio.read((char *)&s, sizeof(s)))
{
pos = fio.tellg();
if (n == s.getAdmno())
{
cout << "The Following Admission No. " <<
n << " will be modified with new data:\n";
s.showData();
cout << "\n\nNow Enter the New Details....\n";
s.getData();
fio.seekg(pos - sizeof(s));
fio.write((char *)&s, sizeof(s));
flag++;
}
}
fio.close();

if (flag == 0)
cout << "The Admission No. " << n << " not found....\n\n";
```

```
}

void project()
{
int ch;
do
{
system("cls");
cout << ".....STUDENT MANAGEMENT SYSTEM.....\n";
cout <<
"=================================================\n";
cout << "0. Exit from Program\n";
cout << "1. Write Data to File\n";
cout << "2. Read Data From File\n";
cout << "3. Search Data From File\n";
cout << "4. Delete Data From File\n";
cout << "5. Get Deleted Records from Trash file\n";
cout << "6. Modify Data in File\n";
cout << "Enter your choice  : ";
cin >> ch;
system("cls");
switch (ch)
{
case 1:
addData();
break;                    case 2:
displayData();
break;
case 3:
searchData();
break;
case 4:
deleteData();
break;
```

```
case 5:
getTrash();
break;                    case 6:
                    modifyData();
                    break;
                        }
                system("pause");
               } while (ch);
                 }

           int main()
                 {
        system("color B0");
                project();
                 }
```

RESULTS:





CONCLUSION:

- Teachers can manage attendance using web sim. So that paperwork can be eliminated
- Generate attendance report any time which allows to know student is eligible to attend the exam or not.
- Students as well as parents can track grades effortlessly.
- Thus, the project is the user-friendly approach.