**COMPUTER SCIENCE PROJECT**

**TOPIC: STUDENT REPORT CARD AND DATA MANAGEMENT OF STUDENT DETAILS**

**DONE BY: SANTOSH**

**ACADEMIC YEAR: 2019- 2020**

**BONAFIDE CERTIFICATE**

Certified bonafide for the Computer Science Project work done by Santosh

Reg.No. 20611340 during the academic year 2019-2020.

DATE: INTERNAL EXAMINER

DATE: EXTERNAL EXAMINER

Submitted for the All India Senior Secondary Practical Examination for the subject COMPUTER SCIENCE at KOLA PERUMAL CHETTY VAISHNAV SENIOR SECONDARY SCHOOL, Arumbakkam, Ch-106.

PRINCIPAL

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Thanking You,

Santosh

***PROJECT ANALYSIS:***

This C++ mini project on **STUDENT REPORT CARD AND DATA MANAGEMENT OF STUDENT DETAILS** has student class with data members like Roll Number, Name, Marks and Grade. Member Functions in this class are used for accept/display details of students and a function to calculate grade based on marks obtained by student. Student Records are stored in a binary file.

This menu driven program illustrates read, write, search, modify and delete operations in binary file.

This project would help users to write data of different students. It can also be used to edit the existing data by removing, modifying or by creating a new data.

***HEADER FILES USED:***

#include<fstream.h>

#include<iomanip.h>

#include<stdio.h>

#include<conio.h>

#include<process.h>

#include<fstream.h>

#include<iomanip.h>

#include<stdio.h>

#include<conio.h>

#include<process.h>

class student

{

int rollno;

char name[50];

int p\_marks,c\_marks,m\_marks,cs\_marks,e\_marks;

float per;

char grade;

void calculate();

public:

void getdata();

void showdata();

void show\_tabular();

int retrollno();

};

void student::calculate()

{

per=(p\_marks+c\_marks+m\_marks+cs\_marks+e\_marks)/5;

if(per>=89.99)

grade='A1';

else if(per>=79.99)

grade='A2';

else if(per>=69.99)

grade='B1';

else if(per>=59.99)

grade='B2';

else if(per>=49.99)

grade='C1';

else if(per>=39.99)

grade='C2';

else if(per>=31.99)

grade='D';

else if(per>=19.99)

grade='E1';

else if(per>=0)

grade='E2';}

void student::getdata()

{

cout<<"\n Enter the Roll Number of the Student: \t";

cin>>rollno;

cout<<"\n Enter the Name of the Student: \t";

gets(name);

cout<<"\n\n\t\t All the Marks are out of 100.";

cout<<"\n Enter the Marks in Physics: \t";

cin>>p\_marks;

cout<<"\n Enter the Marks in Chemistry: \t";

cin>>c\_marks;

cout<<"\n Enter the Marks in Mathematics: \t";

cin>>m\_marks;

cout<<"\n Enter the Marks in Computer Science : \t";

cin>>cs\_marks;

cout<<"\n Enter the Marks in English: \t";

cin>>e\_marks;

calculate();

}

void student::showdata()

{

cout<<"\n Roll Number of Student: \t"<<rollno;

cout<<"\n Name of Student: \t"<<name;

cout<<"\n Marks in Physics: \t"<<p\_marks;

cout<<"\n Marks in Chemistry: \t"<<c\_marks;

cout<<"\n Marks in Mathematics: \t"<<m\_marks;

cout<<"\n Marks in Computer Science: \t"<<cs\_marks;

cout<<"\n Marks in English: \t"<<e\_marks;

cout<<"\n Percentage of Student: \t"<<per;

cout<<"\n Grade of Student: \t"<<grade;

}

void student::show\_tabular()

{

cout<<rollno<<setw(6)<<"\t"<<name<<setw(10)<<p\_marks<<setw(4)<<c\_marks<<setw(4)<<m\_marks<<setw(4)<<cs\_marks<<setw(4)<<e\_marks<<setw(6)<<per<<setw(6)<<"\t"<<grade<<endl;

}

int student::retrollno()

{

return rollno;

}

void write\_student();

void display\_all();

void display\_sp(int);

void modify\_student(int);

void delete\_student(int);

void class\_result();

void result();

void intro();

void entry\_menu();

int main()

{

char ch;

cout.setf(ios::fixed|ios::showpoint);

cout<<setprecision(2);

clrscr();

intro();

do

{

clrscr();

cout<<"\n\n\t\t\ MAIN MENU";

cout<<"\n\t 1. RESULT MENU";

cout<<"\n\t 2. ENTRY/EDIT MENU";

cout<<"\n\t 3. EXIT";

cout<<"\n\t Please Select your Option: \t";

cin>>ch;

clrscr();

switch(ch)

{

case '1':

result();

break;

case '2':

entry\_menu();

break;

case '3':

exit(0);

break;

default:

cout<<"\a";

}

}

while(ch!='3');

return 0;

}

void write\_student()

{

student st;

ofstream f1;

f1.open("student.dat",ios::binary|ios::app);

st.getdata();

f1.write((char\*)&st,sizeof(student));

f1.close();

cout<<"\n Student Record has been Created.";

cin.ignore();

getch();

}

void display\_all()

{

student st;

ifstream f2;

f2.open("student.dat",ios::binary);

if(!f2)

{

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

return;

}

cout<<"\n\n\t\t DISPLAY ALL RECORDS !!! \n\n";

while(f2.read((char\*)&st,sizeof(student)))

{

st.showdata();

cout<<"\n\n==================\n";

}

f2.close();

getch();

}

void display\_sp(int n)

{

student st;

ifstream f2;

f2.open("student.dat",ios::binary);

if(!f2)

{

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

return;

}

int flag=0;

while(f2.read((char\*)&st,sizeof(student)))

{

if(st.retrollno()==n)

{

st.showdata();

flag=1;

}

}

f2.close();

if(flag==0)

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

}

void modify\_student(int n)

{

int found=0;

student st;

fstream f;

f.open("student.dat",ios::binary|ios::in|ios::out);

if(!f)

{

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

return ;

}

while(f.read((char\*)&st,sizeof(student))&&found==0)

{

if(st.retrollno()==n)

{

st.showdata();

cout<<"\n Please Enter the New Details of the Student:"<<endl;

st.getdata();

int pos=(-1)\*sizeof(st);

f.seekp(pos,ios::cur);

f.write((char\*)&st,sizeof(student));

cout<<"\n\t RECORD UPDATED !!!";

found=1;

}

}

f.close();

if(found==0)

cout<<"\n Record does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

}

void delete\_student(int n)

{

student st;

ifstream f2;

f2.open("student.dat",ios::binary);

if(!f2)

{

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

return;

}

ofstream f1;

f1.open("Temp.dat",ios::out);

f2.seekg(0,ios::beg);

while(f2.read((char\*)&st,sizeof(student)))

{

if(st.retrollno()!=n)

{

f1.write((char\*)&st,sizeof(student));

}

}

f1.close();

f2.close();

remove("student.dat");

rename("Temp.dat","student.dat");

cout<<"\n RECORD DELETED !!!";

getch();

}

void class\_result()

{

student st;

ifstream f2;

f2.open("student.dat",ios::binary);

if(!f2)

{

cout<<"\n File does not EXIST..!!!";

cout<<"\n Press any key to continue.";

getch();

return;

}

cout<<"\n\n\t\t ALL STUDENTS' RESULTS !!!";

cout<<"===================================================\n";

cout<<"R.No. Name P C M CS E Percentage Grade"<endl;

cout<<"===================================================\n";

while(f2.read((char\*)&st,sizeof(student)))

{

st.show\_tabular();

}

getch();

f2.close();

}

void result()

{

char ch;

int rno;

cout<<"\n\n\t\t RESULT MENU";

cout<<"\n\t 1. CLASS RESULT";

cout<<"\n\t 2. STUDENT REPORT CARD";

cout<<"\n\t 3. BACK TO MAIN MENU";

cout<<"\n\t Enter your Choice \t";

cin>>ch;

switch(ch)

{

case '1':

class\_result();

break;

case '2':

cout<<"\n Enter the Roll Number of the Student: \t";

cin>>rno;

display\_sp(rno);

break;

case '3':

exit(0);

break;

default:

cout<<"\a";

}

}

void intro()

{

cout<<"\n\t STUDENT REPORT CARD AND DATA MANAGEMENT OF STUDENT DETAILS";

cout<<"\n Name: Santosh";

cout<<"\n Std/Div: XII/A";

cout<<"\n School: Kola Perumal Chetty Vaishnav Senior Secondary School";

getch();

}

void entry\_menu()

{

char ch;

int num;

clrscr();

cout<<"\n\n\t\t ENTRY MENU";

cout<<"\n\t 1. CREATE STUDENT RECORD";

cout<<"\n\t 2. DISPLAY ALL STUDENTS' RECORDS";

cout<<"\n\t 3. SEARCH STUDENT RECORD";

cout<<"\n\t 4. MODIFY STUDENT RECORD";

cout<<"\n\t 5. DELETE STUDENT RECORD";

cout<<"\n\t 6. BACK TO MAIN MENU";

cout<<"\n\t Please Enter your Choice: \t";

cin>>ch;

switch(ch)

{

case '1':

write\_student();

break;

case '2':

display\_all();

break;

case '3':

cout<<"\n Enter the Roll Number of the Student: \t";

cin>>num;

display\_sp(num);

break;

case '4':

cout<<"\n Enter the Roll Number of the Student: \t";

cin>>num;

modify\_student(num);

break;

case '5':

cout<<"\n Enter the Roll Number of the Student: \t";

cin>>num;

delete\_student(num);

break;

case '6':

exit(0);

break;

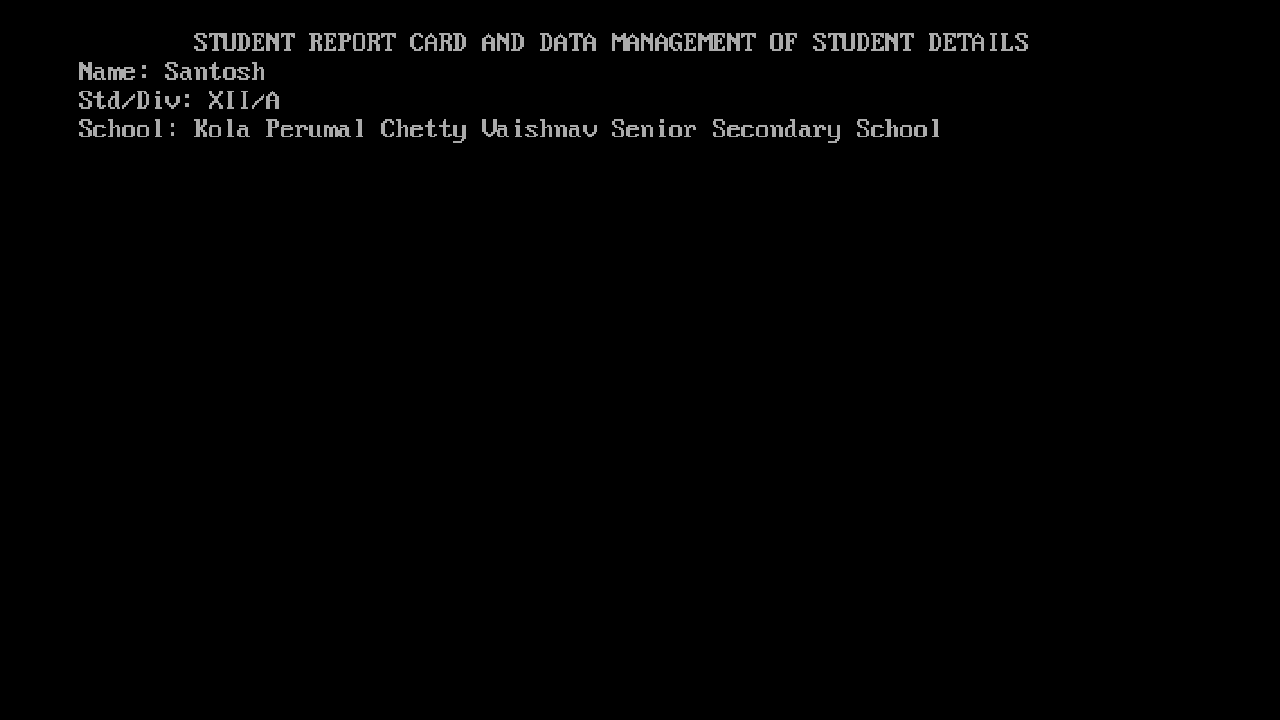
default:

cout<<"\a";

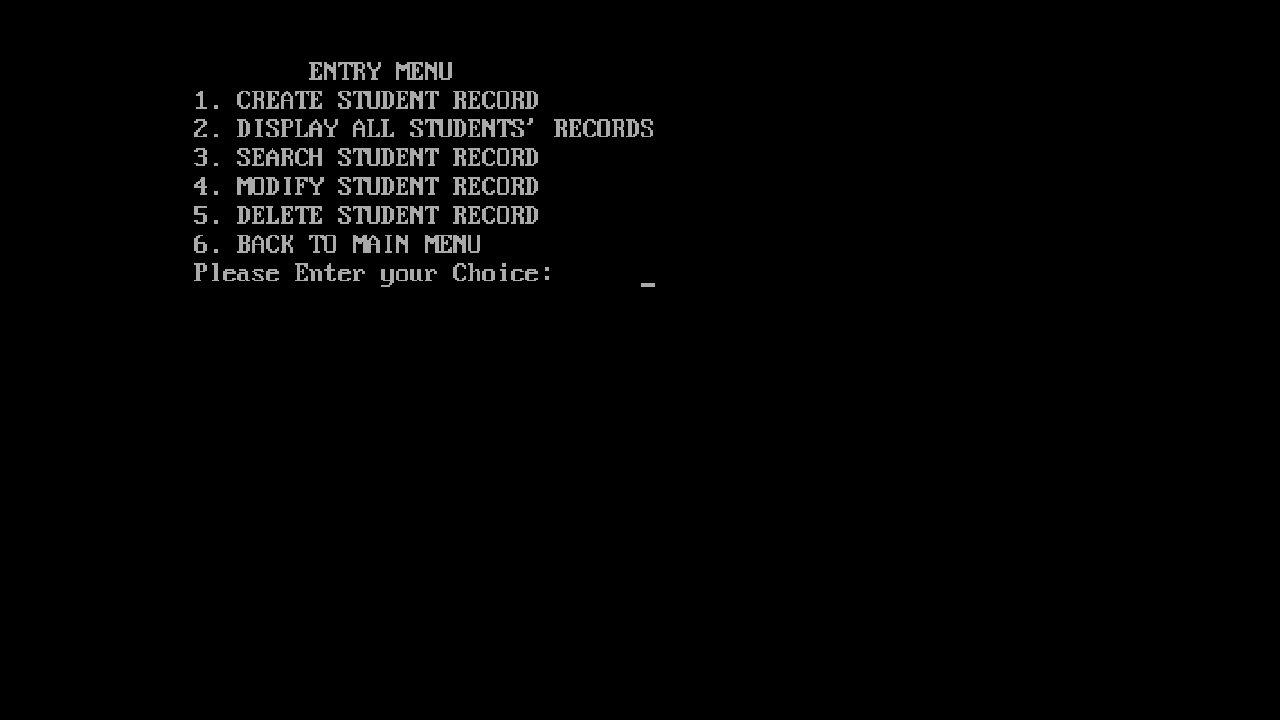
entry\_menu();

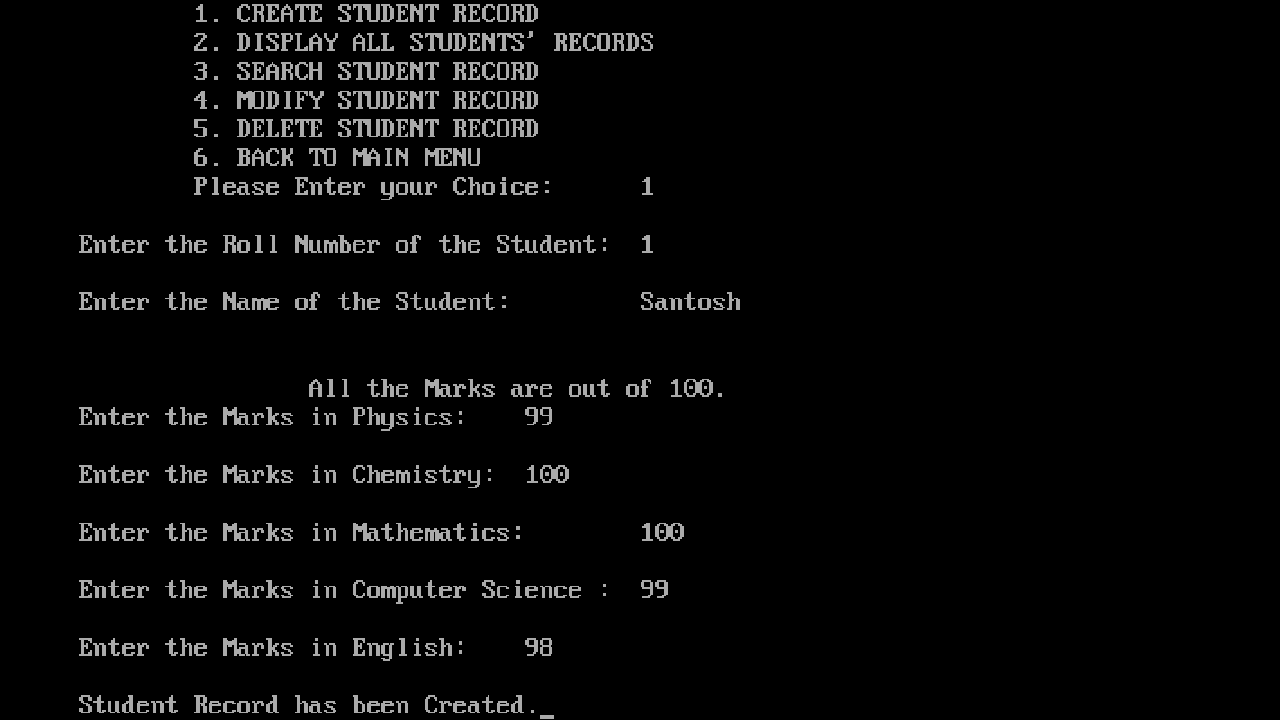
}

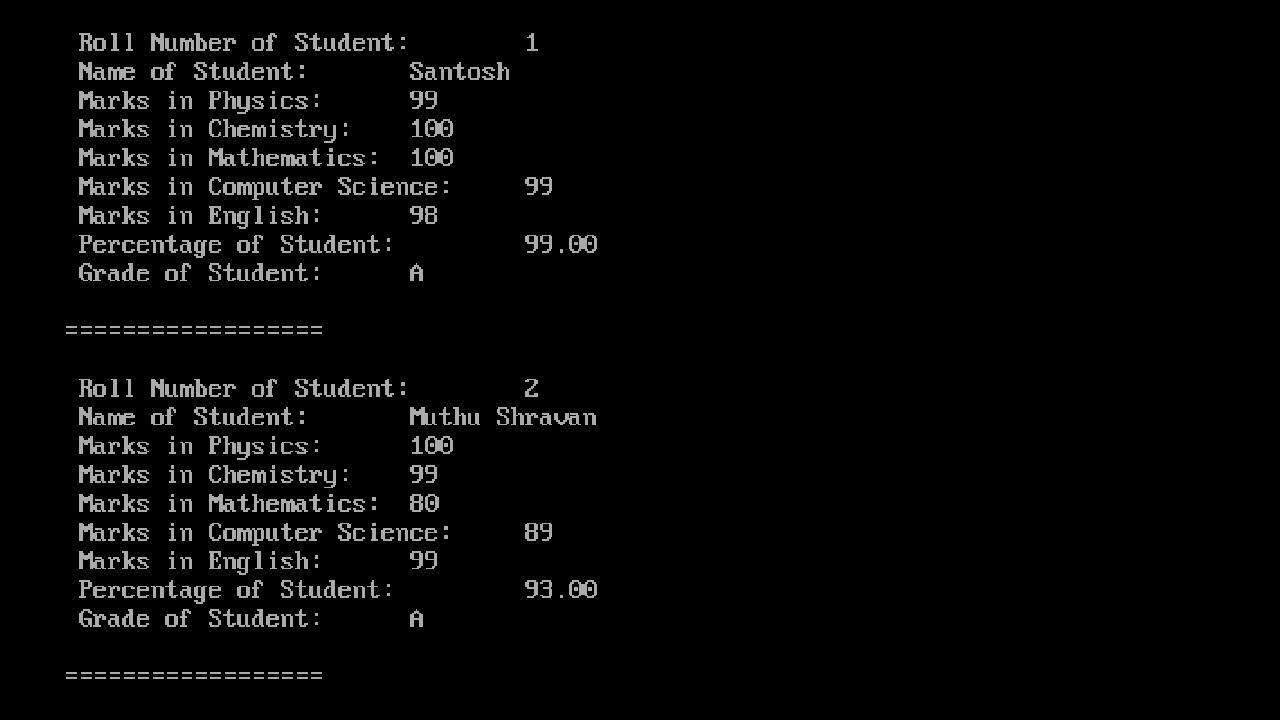
}

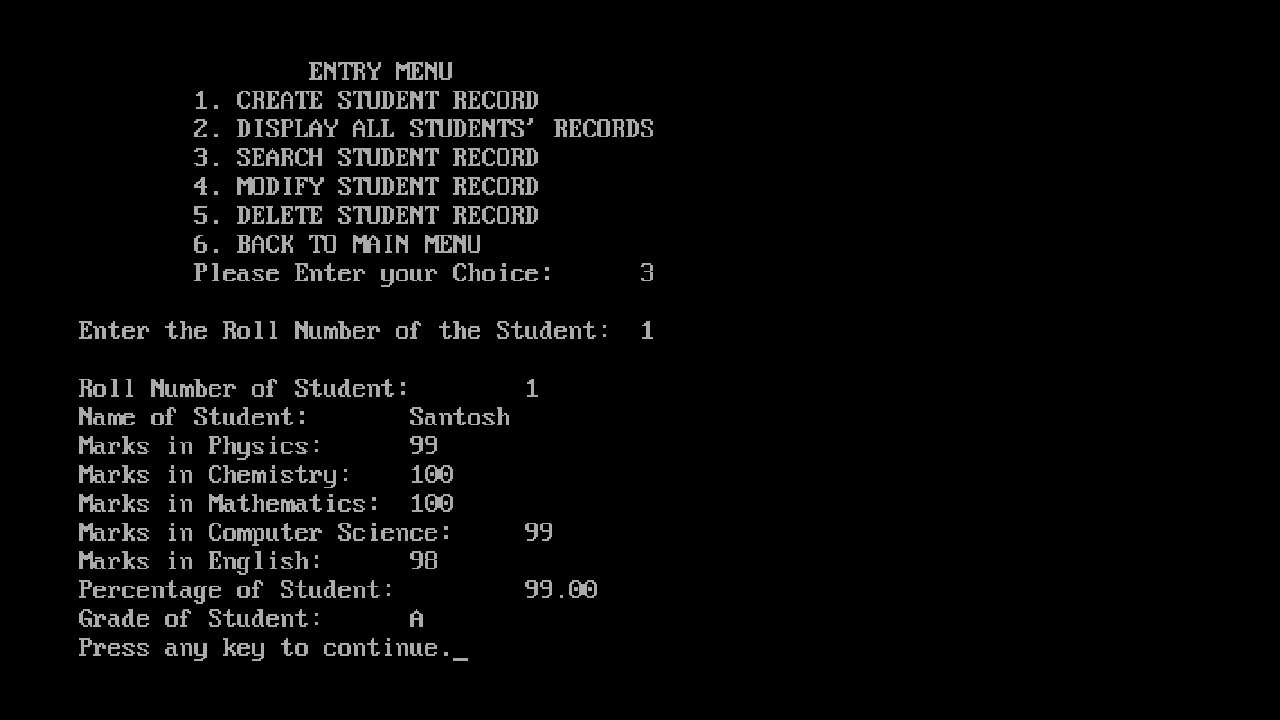


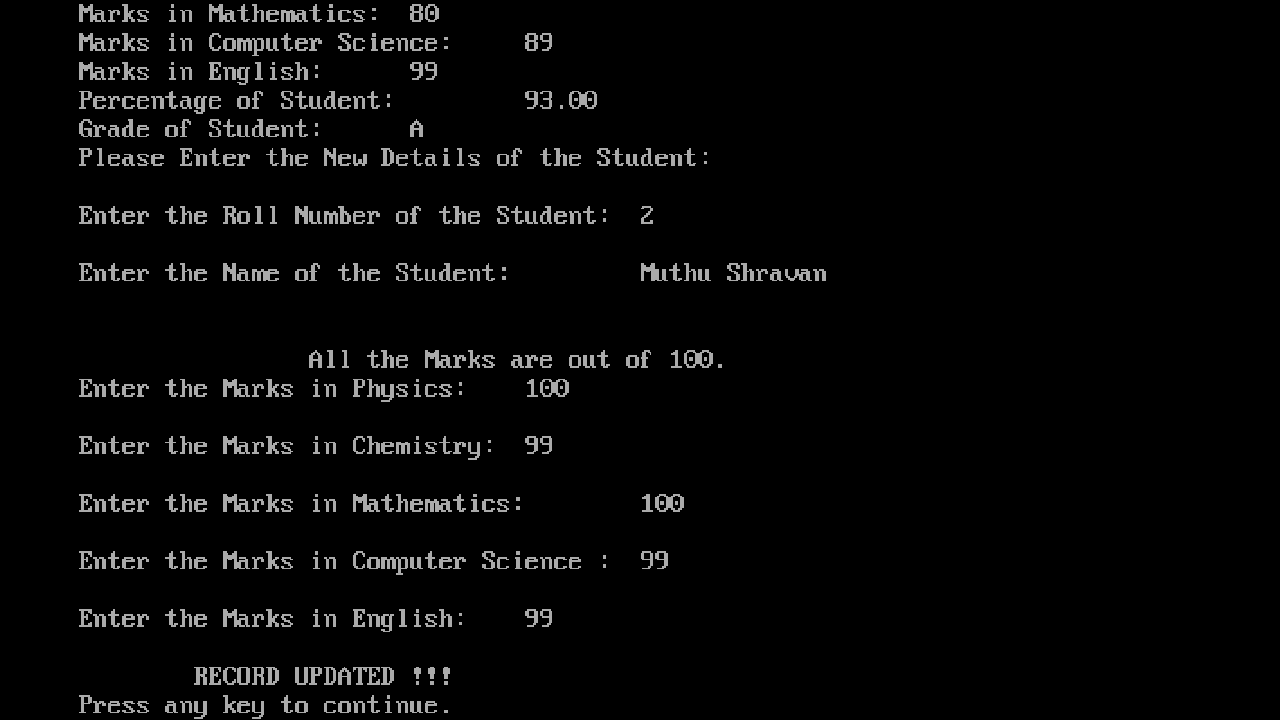


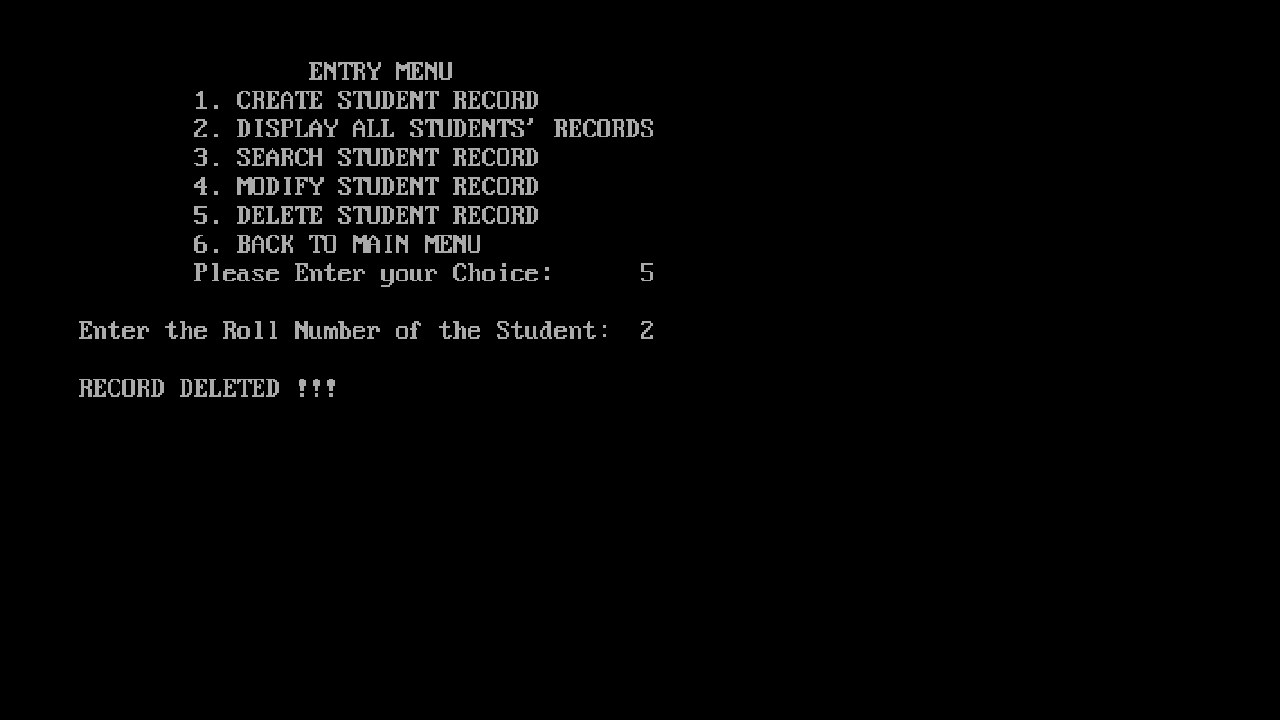


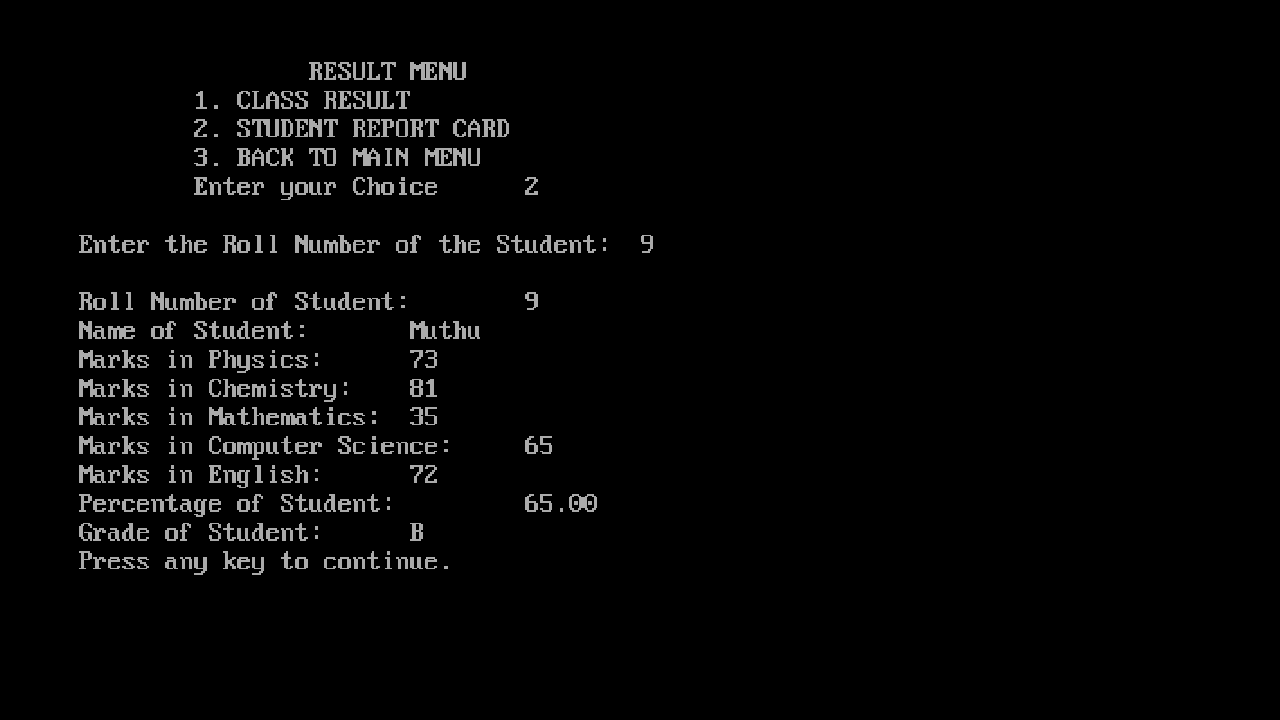












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