**PROGRAM:**

#include<iostream.h>

#include<fstream.h>

#include<iomanip.h>

#include<stdio.h>

#include<conio.h>

class student

{

int rollno; char name[50] , grade;

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

float per;

char grade;

void calculate(); //function to calculate grade

public:

void getdata(); //function to accept data from user

void showdata(); //function to show data on screen

void show\_tabular();

int retrollno();

}; //class ends here

void student::calculate()

{

per=(p\_marks+c\_marks+m\_marks+e\_marks+cs\_marks)/5.0;

if(per>=60)

grade='A';

else if(per>=50)

grade='B';

else if(per>=33)

grade='C';

else

grade='F';

}

void student::getdata()

{

cout<<"\nEnter The roll number of student ";

cin>>rollno;

cout<<"\n\nEnter The Name of student ";

gets(name);

cout<<"\nEnter The marks in physics out of 100 : ";

cin>>p\_marks;

cout<<"\nEnter The marks in chemistry out of 100 : ";

cin>>c\_marks;

cout<<"\nEnter The marks in maths out of 100 : ";

cin>>m\_marks;

cout<<"\nEnter The marks in english out of 100 : ";

cin>>e\_marks;

cout<<"\nEnter The marks in computer science out of 100 : ";

cin>>cs\_marks;

calculate();

}

void student::showdata()

{

cout<<"\nRoll number of student : "<<rollno;

cout<<"\nName of student : "<<name;

cout<<"\nMarks in Physics : "<<p\_marks;

cout<<"\nMarks in Chemistry : "<<c\_marks;

cout<<"\nMarks in Maths : "<<m\_marks;

cout<<"\nMarks in English : "<<e\_marks;

cout<<"\nMarks in Computer Science :"<<cs\_marks;

cout<<"\nPercentage of student is :"<<per;

cout<<"\nGrade of student is :"<<grade;

}

void student::show\_tabular()

{

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

}

int student::retrollno()

{

return rollno;

}

void write\_student(); //write the record in binary file

void display\_all(); //read all records from binary file

void display\_sp(int); //accept rollno and read record from binary file

void modify\_student(int); //accept rollno and update record of binary file

void delete\_student(int); //accept rollno and delete selected records from binary file

void class\_result(); //display all records in tabular format from binary file

void result(); //display result menu

void intro(); //display welcome screen

void entry\_menu(); //display entry menu on screen

int main()

{

char ch;

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

cout<<setprecision(2); // program outputs decimal number to two decimal places

clrscr();

intro();

do

{

clrscr();

cout<<"\n\n\n\tMAIN MENU";

cout<<"\n\n\t01. RESULT MENU";

cout<<"\n\n\t02. ENTRY/EDIT MENU";

cout<<"\n\n\t03. EXIT";

cout<<"\n\n\tPlease Select Your Option (1-3) ";

cin>>ch;

clrscr();

switch(ch)

{

case '1': result();

break;

case '2': entry\_menu();

break;

case '3':

break;

default :cout<<"\a";

}

}while(ch!='3');

return 0;

}

void write\_student()

{

student st;

ofstream outFile;

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

st.getdata();

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

outFile.close();

cout<<"\n\nStudent record Has Been Created ";

cin.ignore();

getch();

}

void display\_all()

{

student st;

ifstream inFile;

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

if(!inFile)

{

cout<<"File could not be open !! Press any Key...";

getch();

return;

}

cout<<"\n\n\n\t\tDISPLAY ALL RECORD !!!\n\n";

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

{

st.showdata();

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

}

inFile.close();

getch();

}

void display\_sp(int n)

{

student st;

ifstream inFile;

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

if(!inFile)

{

cout<<"File could not be open !! Press any Key...";

getch();

return;

}

int flag=0;

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

{

if(st.retrollno()==n)

{

st.showdata();

flag=1;

}

}

inFile.close();

if(flag==0)

cout<<"\n\nrecord not exist";

getch();

}

void modify\_student(int n)

{

int found=0;student st;

fstream File;

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

if(!File)

{

cout<<"File could not be open !! Press any Key...";

getch();

return;

}

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

{

if(st.retrollno()==n)

{

st.showdata();

cout<<"\n\nPlease Enter The New Details of student"<<endl;

st.getdata();

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

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

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

cout<<"\n\n\t Record Updated";

found=1;

}

}

File.close();

if(found==0)

cout<<"\n\n Record Not Found ";

getch();

}

void delete\_student(int n)

{

student st;

ifstream inFile;

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

if(!inFile)

{

cout<<"File could not be open !! Press any Key...";

getch();

return;

}

ofstream outFile;

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

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

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

{

if(st.retrollno()!=n)

{

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

}

}

outFile.close(); inFile.close();

remove("student.dat");

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

cout<<"\n\n\tRecord Deleted ..";

getch();

}

void class\_result()

{

student st;

ifstream inFile;

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

if(!inFile)

{

cout<<"File could not be open !! Press any Key...";

getch();

return;

}

cout<<"\n\n\t\tALL STUDENTS RESULT \n\n";

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

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

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

{

st.show\_tabular();

}

getch();

inFile.close();

}

void result()

{

char ch; int rno;

cout<<"\n\n\n\tRESULT MENU";

cout<<"\n\n\n\t1. Class Result";

cout<<"\n\n\t2. Student Report Card";

cout<<"\n\n\t3. Back to Main Menu";

cout<<"\n\n\n\tEnter Choice (1/2/3)? ";

cin>>ch;

clrscr();

switch(ch)

{

case '1' : class\_result(); break;

case '2' : cout<<"\n\n\tEnter Roll Number Of Student : "; cin>>rno;

display\_sp(rno); break;

case '3' : break;

default: cout<<"\a";

}

}

void intro()

{

cout<<"\n\n\n\t\t STUDENT";cout<<"\n\n\t\tREPORT CARD";

cout<<"\n\n\t\t PROJECT";

cout<<"\n\n\n\tMADE BY : HARINI AND MONISHA";

getch();

}

void entry\_menu()

{

char ch;

int num;

clrscr();

cout<<"\n\n\n\tENTRY MENU";

cout<<"\n\n\t1.CREATE STUDENT RECORD";

cout<<"\n\n\t2.DISPLAY ALL STUDENTS RECORDS";

cout<<"\n\n\t3.SEARCH STUDENT RECORD ";

cout<<"\n\n\t4.MODIFY STUDENT RECORD";

cout<<"\n\n\t5.DELETE STUDENT RECORD";

cout<<"\n\n\t6.BACK TO MAIN MENU";

cout<<"\n\n\tPlease Enter Your Choice (1-6) ";

cin>>ch;

clrscr();

switch(ch)

{

case '1': write\_student(); break;

case '2': display\_all(); break;

case '3': cout<<"\n\n\tPlease Enter The roll number "; cin>>num;

display\_sp(num); break;

case '4': cout<<"\n\n\tPlease Enter The roll number "; cin>>num;

modify\_student(num);break;

case '5': cout<<"\n\n\tPlease Enter The roll number "; cin>>num;

delete\_student(num);break;

case '6': break;

default: cout<<"\a"; entry\_menu();

}

}

**OUTPUT:**





























