COMPUTER SCIENCE PROJECT FILE

DELHI INTERNATIONAL SCHOOL

CLASS-XII A

EXAMINATION MANAGEMENT

PROJECT

MADE BY-SHIVAM SINGHAL

SUBMITTED TO-MS.VANDANA ARORA

CERTIFICATE

This is to certify that the computer science project titled EXAMINATION MANAGEMENT has been successfully completed by SHIVAM SINGHAL of class XII in partial fulfillment of curriculum of CBSE leading to the award of annual examination of the year 2017-2018.

SIGNATURE...

ACKNOWLEDGEMENT

I would like to express my special thanks of gratitude to my teacher (MS. VANDANA ARORA) as well as our principal (MS.PREETI OJHA)who gave me the golden opportunity to do this wonderful project on the topic (EXAMINATION MANAGEMENT), which also helped me in doing a lot of Research and i came to know about so many new things I am really thankful to them.

Secondly i would also like to thank my parents and friends who helped me a lot in finalizing this project within the limited time frame.

CONTENTS

INTRODUCTION

SYSTEM DESIGN(Introduction)

The systems objectives outlined during the feasibility study serve as the basic from which the work of system design is initiated. Much of the activities involved at this stage is of technical nature requiring a certain degree of experience in designing systems, sound knowledge of computer related technology and through understanding of computers available in the market and the various facilities provided by the vendors. Nevertheless, a system cannot be designed in isolation without the active involvement of the user. The user has a vital role to play at this stage too. As we know that data collected during feasibility study wills we utilized systematically during the system design. It should, however be kept in mind that detailed study of the existing system is

not necessarily over with the completion of the feasibility study. Depending on the plan of feasibility study, the level of detailed study will vary and the system design stage will also vary in the amount of investigation that still needs to be done. This investigation is generally an urgent activity during the system. Sometimes, but rarely, this investigation may form a separate stage between feasibility study and computer system design. Designing a new system is a creative process, which calls for logical as will as lateral thinking. The logical approach involves systematic moves towards the end product keeping in mind the capabilities of the personnel and the equipment at each decision making step. Lateral thought implies encompassing of ideas beyond the usual functions and equipment. This is to ensure that no efforts are being made to fit previous solutions into new situations.

PREFACE

Dear learner,

We are moving into an information age. More and more , day by day, we are getting influenced by technology. To survive in this competitive world, we have opted the “computer science” as one of the subject in our higher secondary course. Therefore, one of responsible goal of education wood seem to be to develop a basic knowledge of the operating principles behind the most tools.

Preparing a project in the most wanted programming language C++ is also a step of the education boards to improve our skills and knowledge project illustrates the constructs and facilities offered by the language. This project is developed on the basis of the ideas that we gained from computer science textbook for class XII approved by the NCERT, New Delhi and some additional reference texts. By the end of the project we will be well aware of the programming concepts in C++ language especially programmes which are developed using function.

Any suggestions and comments for the improvement of the project are welcome.

ABSTRACT

The Student Information System contains record of students and one record should have following fields about a student.

Student Name

Student Roll number

Student Marks

Grade

Total Marks

Percentage

The Student Information System should have the following features:

Register a new student into school

Sort student names

Update grade

View student record

View list of failures

Exit – to exit form application

HARDWARE REQUIREMENTS

OPERATING SYSTEM	-	WINDOWS 2000 OR HIGHER
KEYBOARD	-	101 KEYS
MOUSE	-	TWO BUTTONS
HARDDISK CAPACITY	-	500 MB OR HIGHER
RAM HIGHER	-	256 MB

SOFTWARE REQUIREMENT

TURBO C++

MS DOS

HEADER FILES AND THEIR PURPOSE

1. fstream-

provides an interface to read and write data from files as input/output streams.

2. conio.h-

conio.h header contains functions for console input/output. Some of the most commonly used functions of conio.h are clrscr, getch etc….

3. stdio.h-

Input/output functions are defined to stdio.h

4. string.h-

Include the standard header <string.h> to declare a number of functions that help you manipulate C strings and other arrays of characters.

5. iomanip.h-

The header <iomanip> is part of the Input/output library of the C++ Standard Library. These functions may be conveniently used by the C++ programs to effect this state of iostream objects.

Description

Project Description: The main aim of developing this **Examination System C++** Project is to provide efficient tool for school and college management to conduct online exams. This project contains different executed files like fee related files, admission files, attendance files, search files. This c++ project helps students to know their marks, pass status, wrong answers immediately without any time delay.

Abstract of Examination Management System

The client uses MS Excel, and maintains their records, however it is not possible them to share the data from multiple system in multi user environment, there is lot of duplicate work, and chance of mistake. When the records are changed they need to update each and every excel file. There is no option to find and print previous saved records. There is no security; any body can access any report and sensitive data, also no reports to summary report. This Examination Management System is used to overcome the entire problem which they are facing currently, and making complete atomization of manual system to computerized system.

Objective of Examination Management System

The objective and scope of my Project Examination Management System is to record the details various activities of user. It will simplifies the task and reduse the paper work.

During implementation every user will be given appropriate training to suit their specific needs. Specific support will also be provided at key points within the academic calendar.

Training will be provided on a timely basis, and you will be trained as the new is Examination Management System rolled out to your area of responsibility.

At the moment we are in the very early stages, so it is difficult to put a specific time on the

training, but we will keep people informed as plans are developed.The system is very user friendly and it is anticipated that functions of the system will be easily accessed by administrators, academics, students and applicants.

Hence the management system for the College management has been designed to remove all the deficiency from which the present system is suffering and to ensure.

The Main Limitation of the previous system of Examination Management System:

- The existing system only provides text-based interface, which is not as user-friendly as Graphical user Interface.
- Since the system is implemented in Manual, so the response is very slow.
- The transactions are executed in offline mode, hence online data capture and modification is not possible.
- Off-line reports cannot be generated due to batch mode execution.

Hence, there is a need of reformation of the system with more advantages and flexibility. The Examination Management System eliminates

most of the limitations of the existing software. It has the following objectives:

Enhancement:

The main objective of Examination Management System is to enhance and upgrade the existing system by increasing its efficiency and effectiveness. The software improves the working methods by replacing the existing manual system with the computer-based system.

Automation:

The Examination Management System automates each and every activity of the manual system and increases its throughput.

Thus the response time of the system is very less and it works very fast.

Accuracy:

The Examination Management System provides the uses a quick response with very accurate information regarding the users etc. Any details or system in an accurate manner, as and when required.

User-Friendly:

The software Examination Management System has a very user-friendly interface. Thus the users will feel very easy to work on it. The software provides accuracy along with a pleasant interface.Make the present manual

system more interactive, speedy and user friendly.

Availability:

The transaction reports of the system can be retried as and when required. Thus, there is no delay in the availability of any information, whatever needed, can be captured very quickly and easily.

Maintance Cost:

Reduce the cost of maintenance.

PROJECT CATEGORY: Relational Database Management System (RDBMS)

The project is entitled “Examination Management System”,category “RDBMS”. Hence before discussing any thing about the project Examination Management System, a brief disscussion of related basic concept is necessary.

As a software developer or as a programmer,we are expected to design and develope any program that works correctly, efficiently and the time is easy to be used by every person, who may or may not be well versed with computer and its capabilities.

The Project is based on the Examination Management System, Being the Information

System it requires extensive use of some Data base Management System to store, manipulate and handle the huge and complex record, In RDBMS we can act various attributes with the database like editing the records, Modifications Deletions of the records, View the records in various formats, listing the database etc. Project can be categorized by their functioning and relation with their database and other tools can categorize project. Since this project has been developed based on the Relation Data Base Management System So Proposed system comes under RDBMS (Relational Database Management System) category, as there is need to store and manipulate a huge amount of data related to patients as per various queries.

System Design Considerations

The system design process is not a step-by-step adherence of clear procedures and guidelines. Though, certain clear procedures and guidelines have emerged in recent days,But still much of design work depends on knowledge and experience of the designer.When designer starts working on system design, he will face different type of problems. Many of these will be due to constraints imposed by the user or limitations of the hardware and software available in the market. Sometimes, it is difficult to enumerate the complexity of the problems and solutions there of since the variety of likely problems is so great and no solutions are exactly similar. However, following considerations should be kept in mind during the system designing phase:

SCOPE OF THE PROJECT

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to College. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

The present project has been developed to meet the aspirations indicated in the modern age. An attempt has been made through this project to do all work ease & fast. It provide current add, Update, MoveNext, MovePrevious, MoveLast, Find & Delete all facilities to accomplish the desired objectives. The facility Include in this

project and the suggested activities have been organized to impart knowledge & develop skill & attitude in the College official works.

MANAGEMENT

This C++ mini project on EXAMINATION MANAGEMENT has student class with data members like roll no, name, percentage, 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 binary file.

Description

we used following function in this project.

header files

classes

arrays

loops

user-define functions.

Headerfiles

#include<iostream>

#include<fstream>

#include<iomanip>

#include<process.h>

#include<conio.h>

#include<stdio.h>

THE MAIN FUNCTION OF PROGRAM

function to write in file

function to read specific record from file

function to read all records from file

function to modify record of file

function to delete record of file

function to display all students grade report

function to display result menu

INTRODUCTION FUNCTION ENTRY / EDIT MENU FUNCTION

Main feature

classes used in program

we used following classes in this program.

void calculate (this function is used to calculate grades)

void getdata (this is used to accept data from user)

void showdata (this function is used to show data to the user)

Detail description

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

Function declaration

```
char ch;
cout.setf(ios::fixed|ios::showpoint);
cout<<setprecision(2); // program outputs decimal number to two decimal places
intro();
do
{
system("cls");
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;
switch(ch)
{
case '1': result();
break;
case '2': entry_menu();
break;
case '3':
break;
default :cout<<"\a";
}
}while(ch!='3');
return 0;
```

THE MAIN FUNCTION OF PROGRAM

INTRODUCTION FUNCTION

```
void intro()
{
cout<<"\n\n\n\t\t EXAMINATION";
cout<<"\n\n\t\tMANAGEMENT";
cout<<"\n\n\t\t PROJECT";
cout<<"\n\n\n\tMADE BY : SHIVAM SINGHAL";
cout<<"\n\tSCHOOL :DELHI INTERNATIONAL SCHOOL";
cin.get();
}
```

ENTRY / EDIT MENU FUNCTION

```
void entry_menu()
{
char ch;
int num;
system("cls");
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;
system("cls");
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();
}
}
```

SOURCE CODE

```
#include<iostream.h>
#include<fstream>.h
#include<iomanip.h>
#include<process.h>
#include<conio.h>
#include<stdio.h>
class student
{
int rollno;
char name[50];
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();
};
void student::calculate()
{

per=(p_marks+c_marks+m_marks+e_marks+cs_mark
s)/5;
 if(per>=90)
 grade='A';
 else if(per>=80)
 grade='B';
 else if(per>=70)
 grade='C';
 else if(per>=60)
 grade='D';
```

```
 else if(per>=50)
 grade='E';
 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);
 cout<<c_marks<<setw(4)<<m_marks<<setw(4);

cout<<e_marks<<setw(4)<<cs_marks<<setw(6)<<pe
r<<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()
{
 int 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: exit(0);
        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...";
 }
 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...";
 }
 int flag=0;
 while(inFile.read((char *) &st, sizeof(student)))
 {
  if(st.retrollno()==n)
  {
   st.showdata();
   flag=1;
   getch();
  }
```

```
 }
 inFile.close();
 if(flag==0)
 cout<<"\n\nrecord not exist";
}
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...";

 }
  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;
  getch();
 }
}
File.close();
if(found==0)
cout<<"\n\n Record Not Found ";
```

```
}
 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...";
  }
  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...";
    }
    cout<<"\n\n\t\tALL STUDENTS RESULT \n\n";

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

cout<<"==============================
==========================\n";
    while(inFile.read((char *) &st, sizeof(student)))
    {
     st.show_tabular();
     getch();
    }
    inFile.close();
```

```
}
 void result()
 {
  int 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:main();
          break;
    default :cout<<"\a";
    }
   }
   void intro()
   {
    cout<<"\n\n\n\t\t\t\t      STUDENTS RECORD";
    cout<<"\n\t\t\t\t      -------";
                        cout<<"\n\t\t\t\tEXAMINATION
MANAGEMENT";
    cout<<"\n\t\t\t\t--------------------";
       cout<<"\n\t\t\t\t         PROJECT SUBMITTED
TO--MA'AM VANDANA ARORA";
    cout<<"\n\t\t\t\t      -------";
                 cout<<"\n\n\n\tMADE   BY:   SHIVAM
SINGHAL";
```

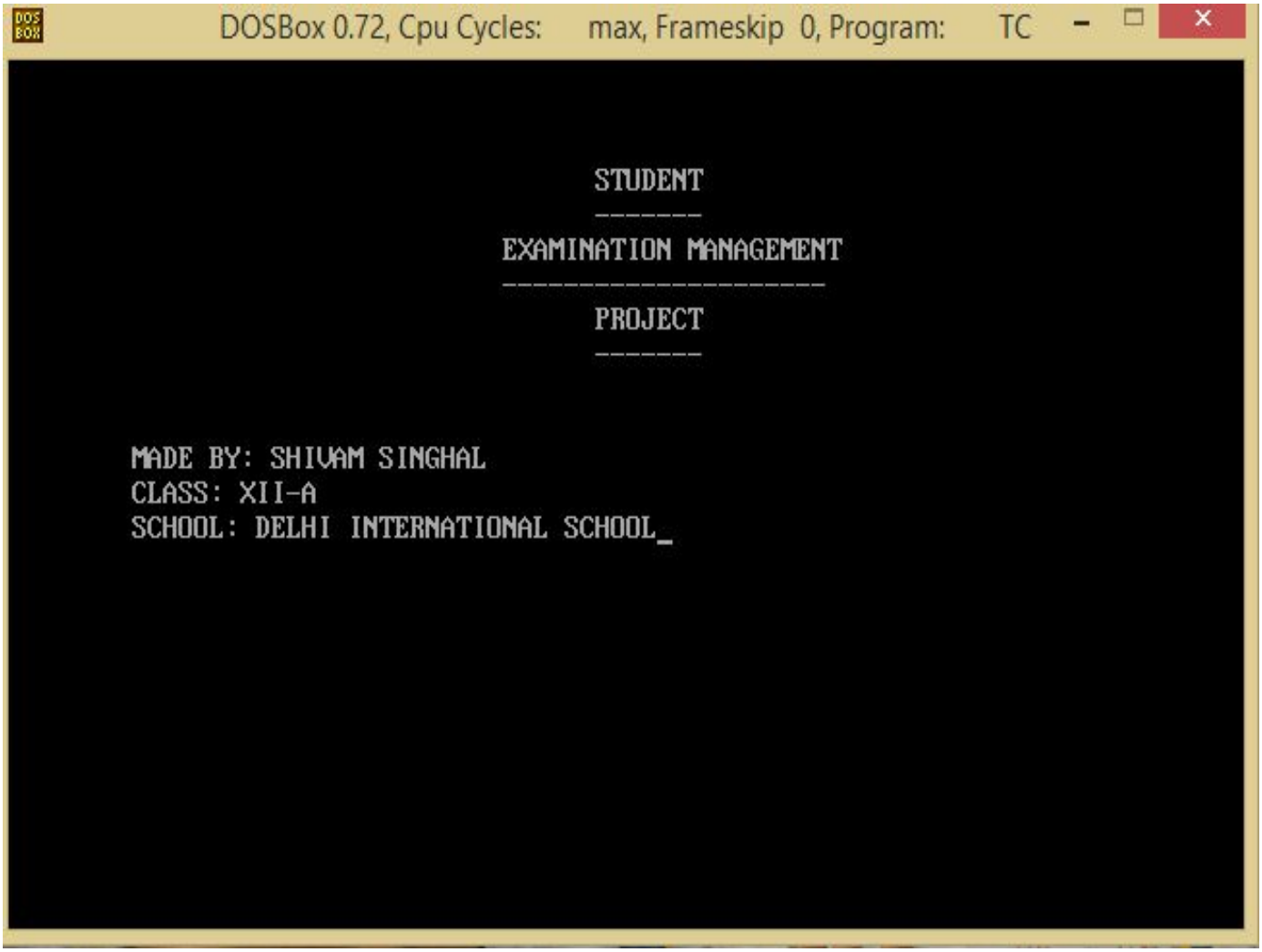
```
    cout<<"\n\tCLASS: XII-A";
                        cout<<"\n\tSCHOOL:    DELHI
INTERNATIONAL SCHOOL";
    getch();
    }
    void entry_menu()
    {
    int ch;
    int num;
    clrscr();
    cout<<"\n\n\n\tENTRY MENU";
    cout<<"\n\n\t1.CREATE STUDENT RECORD";
          cout<<"\n\n\t2.DISPLAY  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;
```

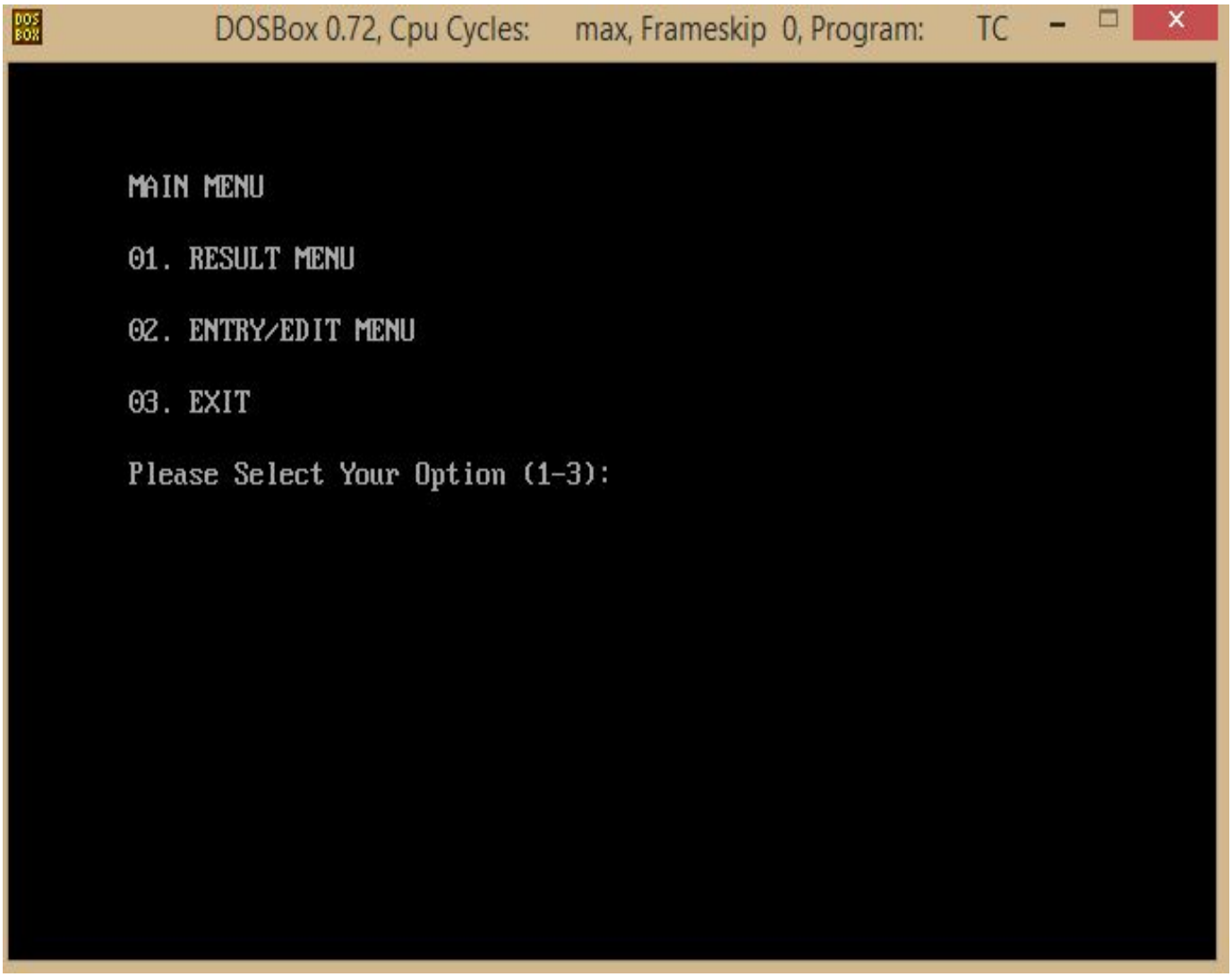
```
    case 5: cout<<"\n\n\tPlease Enter The roll number: "; cin>>num;
                delete_student(num);
                break;
    case 6:main();
           break;
    }
   }
```

OUTPUT

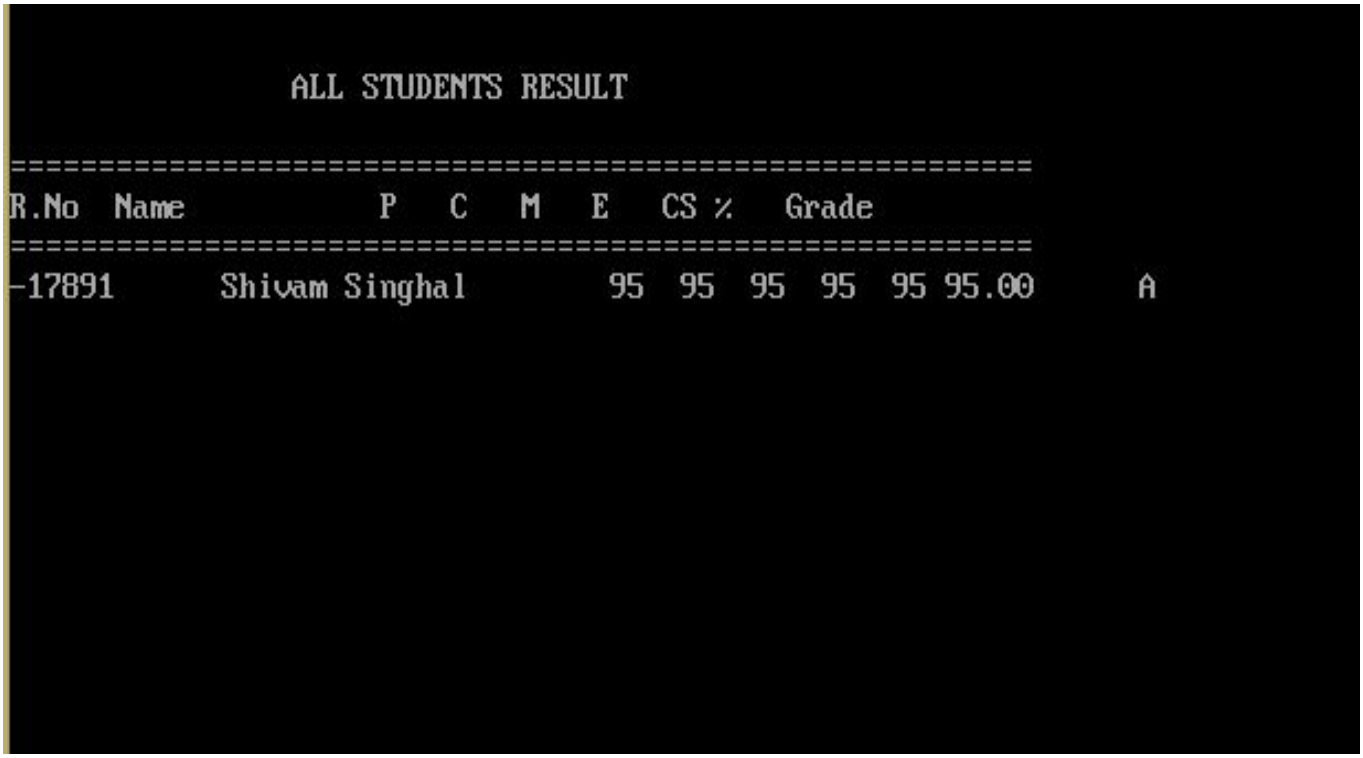
1.Welcome Screen



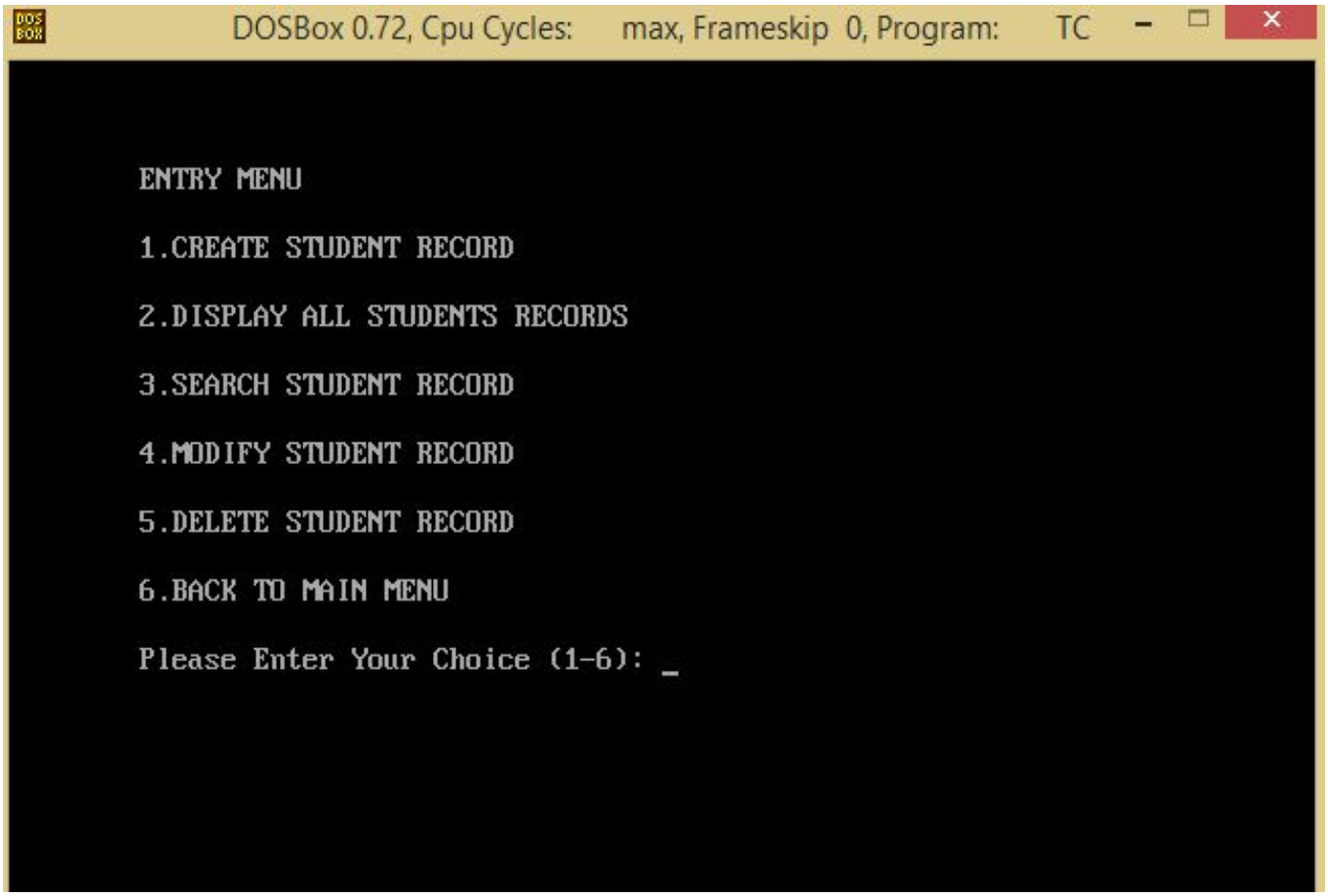
2. MAIN MENU


DOSBox 0.72, Cpu Cycles: max, Frameskip 0, Program: TC
MAIN MENU
01. RESULT MENU
02. ENTRY/EDIT MENU
03. EXIT
Please Select Your Option (1-3):

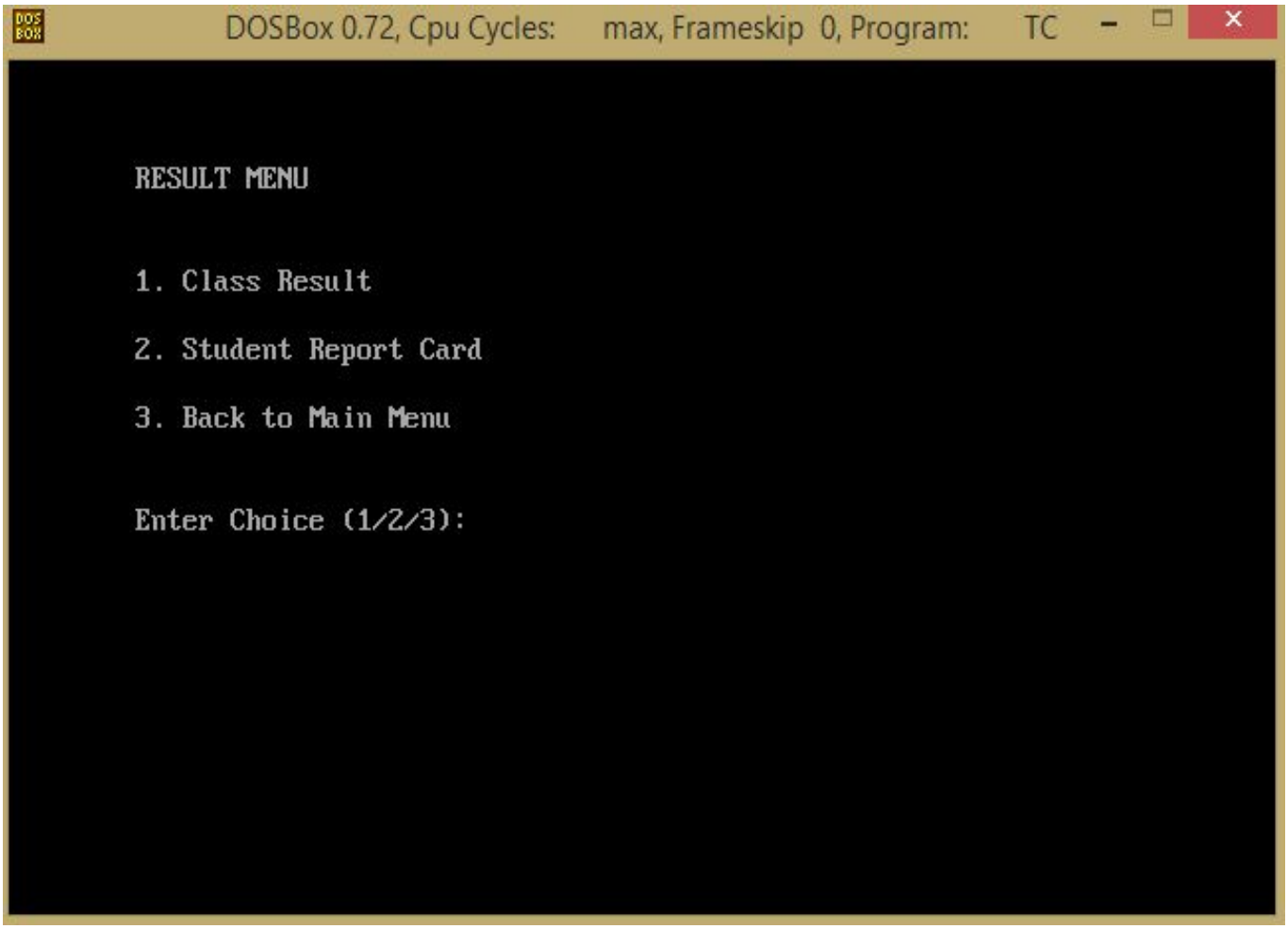
3. RESULT


ALL STUDENTS RESULT
R.No Name P C M E CS % Grade
-17891 Shivam Singhal 95 95 95 95 95 95.00 A

4.ENTRY MENU


DOSBox 0.72, Cpu Cycles: max, Frameskip 0, Program: TC
ENTRY MENU
1.CREATE STUDENT RECORD
2.DISPLAY ALL STUDENTS RECORDS
3.SEARCH STUDENT RECORD
4.MODIFY STUDENT RECORD
5.DELETE STUDENT RECORD
6.BACK TO MAIN MENU
Please Enter Your Choice (1-6): _

5. RESULT MENU



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