A

Model Project in C++

SHREE H.N. SHUKLA GROUP OF COLLEGES

CLASS :

BCA SEM - 3 B

PREPARED BY :

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SUBMITED TO:

SHREE H.N. SHUKLA GROUP OF COLLEGES

Introduction to **C++**

C++ is a multi-paradigm programming language that supports object-oriented programming (OOP), created by Bjarne Stroustrup in 1983 at Bell Labs, C++ is an extension(superset) of [C programming](#) and the programs are written in C language can run in C++ compilers.

C++ is used by programmers to create computer software. It is used to create general systems software, drivers for various computer devices, software for servers and software for specific applications and also widely used in the creation of video games.

C++ is used by many programmers of different types and coming from different fields. C++ is mostly used to write device driver programs, system software, and applications that depend on direct hardware manipulation under real-time constraints. It is also used to teach the basics of object-oriented features because it is simple and is also used in the fields of research. Also, many primary user interfaces and system files of Windows and Macintosh are written using C++. So, C++ is really a popular, strong and frequently used programming language of this modern programming era.

Definition

A *Create and display a project application of STUDENT ADMISSION using inheritance, student name, gender college name, passed stream interested stream,contact no., address etc.*

❖

Starting…

```
┌─────────────────────────────────────────────────────┐
│  ┌───────────────────────────────────────────────┐  │
│  │  Student Admission Form System by Vaitul Bhayani. │  │
│  └───────────────────────────────────────────────┘  │
│                                                       │
│   - You can Create,Edit & See the Admssion Form(s).   │
│                                                       │
│   - Up/Down key for selection & press Enter.          │
│                                                       │
│   - Goto Menu->Help section for a Trouble while Using this programm. │
│                                                       │
│                                                       │
│         MADE BY VAITUL BHAYANI. ALL RIGHTS RESERVED 2018. │
│                                                       │
│                                                       │
│                   ┌─────────────┐                    │
│                   │ bhayani     │                    │
│                   └─────────────┘                    │
│                                                       │
└─────────────────────────────────────────────────────┘
```

Home

```
┌─────────────────────────────────────────────────────┐
│ User : BHAYANI                    Completed Form(s) : 0 │
│───────────────────────────────────────────────────── │
│                                                       │
│                                                       │
│                                                       │
│                   ┌─────────────┐                    │
│                   │ NEW FORM    │                    │
│                   └─────────────┘                    │
│                     SHOW FORM                         │
│                                                       │
│                     HELP & ABOUT                      │
│                                                       │
│                     EXIT                              │
│                                                       │
│                                                       │
│         MADE BY VAITUL BHAYANI. ALL RIGHTS RESERVED 2018. │
└─────────────────────────────────────────────────────┘
```

Starting…

```
User : BHAYANI                        Completed Form(s) : 0
------------------------------------------------------------

 DATE(dd/mm/yyyy) : 4/10/2018

    Student Name : tony stark

          Gender : male

 DOB(dd/mm/yyyy) : 19/1/2000

         Address : | new york_                              |

         Contact :

    College Name :

   Passed Stream :

Interested Stream :

                          SUBMIT.
```

```
User : BHAYANI                        Completed Form(s) : 1
------------------------------------------------------------




           ID 1:  Your Form successfully submited.        _


```

```
User : BHAYANI                          Completed Form(s) : 1
─────────────────────────────────────────────────────────────

  DATE(dd/mm/yyyy) : 5/8/2018

      Student Name : super man

           Gender : male

  DOB(dd/mm/yyyy) :

          Address :

          Contact : 8045756321

     College Name : hms

    Passed Stream : bca

 Interested Stream : mca
                              ┌──────────┐
                              │ ERROR..  │
                              └──────────┘
```

```
User : BHAYANI                          Completed Form(s) : 1
─────────────────────────────────────────────────────────────




                    Your Form not submited._




```

```
User : BHAYANI                                    Completed Form(s) : 1




                          NEW FORM

                        ┌─────────────┐
                        │ SHOW FORM   │
                        └─────────────┘

                          HELP & ABOUT

                          EXIT



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```

```
User : BHAYANI                                    Completed Form(s) : 7




        ◀ NOTE ▶

              → Up / Down Keys to navigate

              → Delete key to delete that selected form

              → Ctrl + delete key to delete all the saved forms

              → TAB key to search form by id

              → Esc key to exit

```

```
User : BHAYANI                              Completed Form(s) : 7
-----------------------------------------------------------------
   ID          Name

   001      BHAYANI VAITUL

   002      AJUDIYA DARSHIL

   003      ACHARYA BHARGAV

   004      SENJALIYA SAGAR

  +---------------------------------------------------------------+
   005      TONY STARK
  +---------------------------------------------------------------+

   006      SUPER MAN

   007      BLACK WIDOW
```

```
User : BHAYANI                              Completed Form(s) : 7
-----------------------------------------------------------------
                              ID:005

              Date  | 4/10/2018

              Name  | TONY STARK

            Gender  | MALE

               DOB  | 19/7/1988

           Address  | NEW YORK

           Contact  | 8565957585

      College Name  | HARWARD

     Passed Stream  | BCA

  Interested Stream | MCA_
```

```
User : BHAYANI                              Completed Form(s) : 7

    ID          Name

   001      BHAYANI VAITUL

   002      AJUDIYA DARSHIL

   003      ACHARYA BHARGAV

   004      SENJALIYA SAGAR

  ┌─────────────────────────────────────────────────────────────┐
  │ 005      TONY STARK                                           │
  └─────────────────────────────────────────────────────────────┘

   006      SUPER MAN

   007      BLACK WIDOW
```

```
User : BHAYANI                              Completed Form(s) : 6




                        Form Deleted Successfuly.
```

```
User : BHAYANI                              Completed Form(s) : 6
_____




                              NEW FORM

                              SHOW FORM
                         ┌──────────────────┐
                         │  HELP & ABOUT    │
                         └──────────────────┘
                              EXIT




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```

```
User : BHAYANI                              Completed Form(s) : 6
_____

   Help:

      - Press Up/Down key for move the cursor.

      - Enter key for select option.

      - BackSpace key for Calcel the operation & goto the main menu.


   About:

      - A VIVA model project SEM-3 2018.

      - A programm developed by Vaitul Bhayani from BCA HNS College.

      - For any query contact : 9904021519/vaitulb@gmail.com._

```

```cpp
#include<stdlib.h>
#include<iostream.h>
#include<conio.h>
#include<dos.h>
#include<stdio.h>
#include<string.h>
#include<fstream.h>

// CLASSES
class personalInfo
{
public:
    char name[30];
    char gender[7];
    char dob[15];
    char address[50];
    char contact[15];
};
class careerInfo:public personalInfo
{
public:
  char collegeName[30];
  char passedStream[20];
  char interestedStream[20];
};

class studentFormData:public careerInfo
{
public:
    int id;
    char date[15];

    void setData(char Idate[],
                char Iname[],char Igender[],char Idob[],
                char Iaddress[],char Icontact[],
```

```cpp
                   char   IcollegeName[],char   IpassedStream[],
                   char   IinterestedStream[])
{
        id = ++ID;
        strcpy(date,Idate);

        strcpy(name , Iname);
        strcpy(gender , Igender);
        strcpy(dob , Idob);
        strcpy(address , Iaddress);
        strcpy(contact , Icontact);

        strcpy(collegeName , IcollegeName);
        strcpy(passedStream , IpassedStream);
        strcpy(interestedStream , IinterestedStream);

        ofstream fout;
        fout.open("vb_forms.db",ios::app|ios::binary);
        fout.write((char*)this,sizeof(*this));
        fout.close();

}
void putData(int i)
{
        ifstream fin;
        fin.open("vb_forms.db",ios::in|ios::binary);
        if(fin) {
            fin.read((char*)this,sizeof(*this));
            while(!fin.eof()){
                 if(id==i)
                     break;
                 fin.read((char*)this,sizeof(*this));
            }
        }
        fin.close();

}
void deleteForm(int formId)
{
        if(formId>ID) {
```

```cpp
            clrscr();
            cout<<"dev error : Id Not Found";
            getch();
            return;
        }
        if(!(formId==-1||formId==1&&ID==1)) {
            ifstream fin;
            ofstream tmp;
            fin.open("vb_forms.db",ios::in|ios::binary);
            tmp.open("vb_temp.dat",ios::app|ios::binary);
            fin.read((char*)this,sizeof(*this));
            int tid=1;
            while(!fin.eof()){
                if(this->id!=formId) {
                    this->id = tid;
                    tmp.write((char*)this,sizeof(*this));
                    tid++;
                }
                fin.read((char*)this,sizeof(*this));
            }
            fin.close();
            tmp.close();
            remove("vb_forms.db");
            rename("vb_temp.dat","vb_forms.db");
        }
        else
            remove("vb_forms.db");
        frame();
        animatedWord(25,13,"Form Deleted Successfuly.");
        delay(1500);
    }
};
```

```cpp
// FUNTIONS

char  name[100];
int selection=1,re=9,WFLAG=0;

void Box();//print the border around th text.
void removeBox();//remove the border around th text.
void frame();//print the border around whole window and top panel.
void menu();//menu declaration & and there conding.
void welcome();//print the first text when we programm start.
void newForm();//make new admission form.
void showForm();//show form.
void help();//programm help section
void start(int);//starting function of all another functions
void animatedWord(int x,int y,char[],int=1);//print animated str.

void Box(int x=0,int y=0,int w=0,int h=1)
{
    gotoxy(x+0,y+0);
    cout << char (218);//top left corner
    for(int i=1;i<=h;i++){
        gotoxy(x+0,y+i);
        cout << char (179);// |
    }
    gotoxy(x+0,y+1+h);
    cout << char (192);//bottom left corner
    gotoxy(x+1,y+0);

    for(i=1;i<=1+w;i++)
        cout << char (196);// -
    cout << char (191);//top right corner
    for(i=1;i<=h;i++)
    {
        gotoxy(x+2+w,y+i);
        cout << char (179);// |
    }
    gotoxy(x+1,y+1+h);
    for(i=1;i<=1+w;i++)
        cout << char (196);// -
    cout << char (217);//bottom right corner
```

```cpp
}

void removeBox(int x=0,int y=0,int w=0,int h=1)
{
    gotoxy(x+0,y+0);
    cout << " ";//top left corner
    for(int i=1;i<=h;i++){
        gotoxy(x+0,y+i);
        cout << " ";// |
    }
    gotoxy(x+0,y+1+h);
    cout << " ";//bottom left corner
    gotoxy(x+1,y+0);

    for(i=1;i<=1+w;i++)
        cout << " ";// -

    cout << " ";//top right corner

    for(i=1;i<=h;i++){
        gotoxy(x+2+w,y+i);
        cout << " ";// |
    }

    gotoxy(x+1,y+1+h);
    for(i=1;i<=1+w;i++)
        cout << " ";// -
    cout << " ";//bottom right corner
}

void frame()
{
    clrscr();
    Box(1,1,74,1);
    Box(1,1,74,23);
    gotoxy(2,2);
    cout<< " User : ";
    cout << (name);
    gotoxy(54,2);
```

```cpp
        ifstream fin;
        fin.open("vb_forms.db",ios::in|ios::binary);
        if(fin) {
                char tmp[204];
                ID=0;
                fin.read(tmp,sizeof(studentFormData));
                while(!fin.eof()){
                    fin.read(tmp,sizeof(studentFormData));
                    ID++;
                }
                fin.close();
        }
        else
                ID=0;


        cout << "Completed Form(s) : ";cout << ID;cout;
}

void menu(int selection=0,int flag=0)
{
    if(!flag) {

            switch(selection) {
                case 0:break;
                case 1:Box(30,9,13,1);break;
                case 2:Box(30,11,13,1);break;
                case 3:Box(30,13,13,1);break;
                case 4:Box(30,15,13,1);break;
            }
            gotoxy(32,10);
            cout << "NEW FORM";
            gotoxy(32,12);
            cout << "SHOW FORM";
            gotoxy(32,14);
            cout << "HELP & ABOUT";
            gotoxy(32,16);
            cout << "EXIT";
            gotoxy(37,26);
    }
    else
```

```cpp
            switch(selection)
                case 0:break;
                case 1:newForm();break;
                case 2:showForm();break;
                case 3:help();break;
                case 4:clrscr();
                        gotoxy(35,12);
                        cout<<"THANK YOU.\n\t\t\t\t            ";
                        delay(2000);exit(1);break;
            }
            start(0);
        }
}

void welcome()
{
 ifstream fin;
 fin.open("vb_user.db");
 if(!fin) {
    Box(1,1,74,23);
    gotoxy(0,0);
    Box(2,2,72);
    char  f[] = "Student Admission Form System by Vaitul
                 Bhayani.";
    char  s[] = "- You can Create,Edit & See the Admssion
                 Form(s).";
    char  t[] = "- Up/Down key for selection & press Enter.";
    char  fo[] = "- Goto Menu->Help section for a Trouble
                  while Using this programm.";

    animatedWord(16,3,f);
    animatedWord(5,6,s);
    animatedWord(5,8,t);
    animatedWord(5,10,fo);


    char  rights[] = "MADE BY VAITUL BHAYANI. ALL RIGHTS
                      RESERVED 2018.";
    animatedWord(13,15,rights);


    Box(30,19,10);
```

```cpp
        gotoxy(31,20);
        char  btn[] = "Get Started";
        cout << (btn);
        gotoxy(0,21);
        getch();
        gotoxy(43,20);

        //Getting name from user.
        cout << "\b\b\b\b\b\b\b\b\b\b\b\b\b\bEnter Name Only";
        Box(28,19,15);
        gotoxy(44,20);delay(1500);gotoxy(29,20);cout << "       ";
        gotoxy(29,20);
        fflush(stdin);
        cin>>(name);
        strcpy(name,strupr(name));

        ofstream fout;
        fout.open("vb_user.db");
        fout.write(name,sizeof(name));
        fout.close();
 }
 else
 {
            fin.read(name,sizeof(name));
            fin.close();
 }
}

studentFormData addmisionForm;

void newForm()
{
            frame();
            char  f[]="Please fill up all fields.";
            animatedWord(26,13,f);
            delay(1000);animatedWord(26,13,f,0);
            gotoxy(1,3);

            char data[10][100];
            strcpy(data[0]  , " DATE(dd/mm/yyyy) : ");
```

```cpp
        strcpy(data[1] , "      Student Name : ");
        strcpy(data[2] , "           Gender : ");
        strcpy(data[3] , "  DOB(dd/mm/yyyy) : ");
        strcpy(data[4] , "          Address : ");
        strcpy(data[5] , "          Contact : ");
        strcpy(data[6] , "     College Name : ");
        strcpy(data[7] , "    Passed Stream : ");
        strcpy(data[8] , "Interested Stream : ");

        for(int i=0,j=5;i<=8;i++,j+=2) {
            animatedWord(3,j,data[i]);
        }

        gotoxy(35,23);
        cout<<"SUBMIT.";

        for(i=0,j=0;i<=16,j<=8;i+=2,j++){
            Box(22,4+i,50);
            gotoxy(23,4+1+i);
            fflush(stdin);
            gets(data[j]);
            removeBox(22,4+i,50);
            strupr(data[j]);
        }

        int flag=1;
        for(i=0;i<=8;i++){
            if(!data[i][0]) {
              flag = 0;
              break;
            }

        }
        Box(33,22,8);
        if(!flag){
           gotoxy(35,23);
           cout<<"ERROR.";
           getch();
           frame();
           char  f[] ="Your Form not submited.";
```

```cpp
                    animatedWord(26,13,f);
                    delay(2300);animatedWord(26,13,f,0);
                    return;
            }
            getch();
            addmisionForm.setData(data[0],data[1],data[2],
                                  data[3],data[4],data[5],
                                  data[6],data[7],data[8]);
            frame();
            gotoxy(19,13);cout << "ID "<<ID<<":";
            char  f1[]=" Your Form successfully submited.      ";
            animatedWord(25,13,f1);delay(2000);
            animatedWord(19,13,f1,0);


}
int flag_showform = 1;
void showForm()
{
    ifstream fin;
    fin.open("vb_forms.db");
    if(!fin)
            frame();
            char  f[] ="Sorry ,Form not Found !!";
            animatedWord(27,13,f);delay(1500);
            animatedWord(27,13,f,0);
            return;
    }
    if(flag_showform) {
            frame();
            gotoxy(8,8);
            cout<<char(17)<<" NOTE "<<char(16);
            gotoxy(13,10);
            cout<<char(26)<<" Up / Down Keys to navigate";
            gotoxy(13,12);
            cout<<char(26)<<" Delete key to delete that selected
                            form";
            gotoxy(13,14);
            cout<<char(26)<<" Ctrl + delete key to delete all
                            the saved forms";
            gotoxy(13,16);
```

```cpp
        cout<<char(26)<<" TAB key to search form by id";
        gotoxy(13,18);
        cout<<char(26)<<" Esc key to exit";
        getch();
        flag_showform = 0;
}


studentFormData form;
int sel=0;

if(ID<1){
        frame();
        char  f[] ="Sorry ,Form not Found !!";
        animatedWord(27,13,f);delay(1500);
        animatedWord(27,13,f,0);
        return;
}
else if(ID<2)
        frame();
        char  f[]="    One Form Found.";
        animatedWord(27,13,f);delay(1500);
        animatedWord(27,13,f,0);
        sel = 1;
}
Else
{
        frame();
        int i=1,x=5,y=6,step=10,flag = 1,c;
        sel = 5;

        gotoxy(5,4);cout << "ID               Name              ";
        RESTART:
        for(i;i<=step;i++){
            if(i<=ID) {
                gotoxy(x,y);
                form.putData(i);
                printf("%.3d     ",form.id);
                if(i == step || sel < 10)
                    animatedWord(x+8,y,form.name);
                else
```

```cpp
                    cout << form.name;
                y+=2;
            }
        }
        i--;
        if((i-step) == 0)
        {
            while(1)
            {
                if(flag)
                {
                    Box(x-2,sel,68);
                    c = getch();
                    if(c == 224 || c==0)
                    c = getch();
                    if(c == 80)
                    {
                        if(sel<7)
                        {
                            char f[] = "   ";
                            gotoxy(36,3);
                            cout << f;
                        }
                        removeBox(x-2,sel,68);
                        if((sel-3)/2<ID)
                            sel += 2;
                        Box(x-2,sel,68);
                    }
                    if(c == 72)
                    {
                        if(sel<7){char f[] = "          ";
                        gotoxy(36,3);cout << f;}
                        removeBox(x-2,sel,68);
                        if((sel-3)/2<ID)
                            sel += 2;
                        Box(x-2,sel,68);
                    }
                    gotoxy(36,3);
                    for(int k=1;k<=40;k++){cout<<char(196);}
                }
```

```c
if((sel-3)/2 == step)
{
    flag = 0;
    c = getch();
    if(c == 224)
    c = getch();
    if(c == 80)
    {
        sel+=2;
        x=5;y=6;
        gotoxy(x,y);
        step++;
        i = step - 10;
        i++;
        if((sel-3)/2 <= ID)
            goto RESTART;

    }
}
if(c == 83)
{
    form.deleteForm((sel-3)/2);
    return;
}
if(c == 147)
{
    form.deleteForm(-1);
    return;
}
if(c == 27)
    return;
if(c == 13)
{
    sel = (sel-3)/2;
    if(sel>=ID)
        sel = ID;
    break;
}
if(c == 9)
{
```

```cpp
                    frame();
                    char f[] = "Enter ID Number : ";
                    animatedWord(19,13,f);
                    Box(37,12,4);
                    char s[] = " And press enter.";
                    animatedWord(44,13,s);
                    gotoxy(39,13);
                    int q;
                    cin >> q;
                    if(q>ID)
                    {
                     frame();
                      char t[] = "Entered ID has not found!";
                     animatedWord(25,13,t);
                     delay(2000);
                     animatedWord(25,13,f,0);
                     showForm();
                     return;
                    }
                     sel = q;
                     break;
                }
            }
        }
    }
    frame();
    gotoxy(36,4);
    printf("ID:%.3d",sel);
    form.putData(sel);
    int x = 23;
    for(int i=16;i>=0;i-=2)
    {
        Box(x+1,i+5,46,1);
        Box(x-18,i+5,17,1);
    }
    int y = 6;
    gotoxy(6,y);cout<<"                  Date";
    gotoxy(6,y+2);cout<<"                   Name";
    gotoxy(6,y+4);cout<<"                 Gender";
    gotoxy(6,y+6);cout<<"                    DOB";
```

```cpp
    gotoxy(6,y+8);cout<<"                  Address";
    gotoxy(6,y+10);cout<<"                  Contact";
    gotoxy(6,y+12);cout<<"          College Name";
    gotoxy(6,y+14);cout<<"      Passed Stream";
    gotoxy(6,y+16);cout<<"Interested Stream";

    x=26;
    y=6;
    gotoxy(x,y);cout<<form.date;
    gotoxy(x,y+2);cout<<form.name;
    gotoxy(x,y+4);cout<<form.gender;
    gotoxy(x,y+6);cout<<form.dob;
    gotoxy(x,y+8);cout<<form.address;
    gotoxy(x,y+10);cout<<form.contact;
    gotoxy(x,y+12);cout<<form.collegeName;
    gotoxy(x,y+14);cout<<form.passedStream;
    gotoxy(x,y+16);cout<<form.interestedStream;
    gotoxy(x+12,y+20);
    int c = getch();
    if(c==0 && getch()== 83)
        form.deleteForm(sel);
    if(ID<2)
        return;
    showForm();
}

void animatedWord(int x,int y,char  tmp[],int F)
{
    gotoxy(x,y);
    for(int i=0;tmp[i]!='\0';i++)
    {
        delay(7);
        if(F)
            cout << tmp[i];
        else
            cout << " ";
    }
}
```

```cpp
void help()
{
    frame();

    cout << "\n\n\n|    Help:";
    char  f[] = " - Press Up/Down key for move the cursor.";
    char  s[] = " - Enter key for select option.";
    char  t[] = " - BackSpace key for Calcel the operation &
                 goto the main menu.";

    animatedWord(6,7,f);
    animatedWord(6,9,s);
    animatedWord(6,11,t);


    cout << "\n\n\n\n|   About:";
    char  f1[] = " - A VIVA model project SEM-3 2018.";
    char  s1[] = " - A programm developed by Vaitul Bhayani
                     from BCA HNS College.";
    char  t1[] = " - For any query contact :
                     9904021519/vaitulb@gmail.com.";

    animatedWord(6,17,f1);
    animatedWord(6,19,s1);
    animatedWord(6,21,t1);

    getch();
}

void start(int f)
{
    WFLAG = f;
    if(WFLAG!=0){
          frame(); char  c[] ="MADE BY VAITUL BHAYANI.ALL
                              RIGHTS RESERVED 2018.";
          animatedWord(15,22,c);
    }
    while(WFLAG)
    {
          menu(selection);
```

```c
            if(getch() == 13){menu(selection,1);}
            else
            {
                removeBox(30,re,13,1);
                switch(getch())
                {
                    case 72:
                        selection--;
                        re -= 2;
                        break;
                    case 80:
                        selection++;
                        re += 2;
                        break;
                }
                if(selection>4){selection--; re -= 2;}
                if(selection<1){selection++; re += 2;}
            }
    }
}


void main()
{
    clrscr();
    welcome();
    while(1)
    {
        fflush(stdin);
        start(1);
    }
}
```

〈 Thank You 〉