

Computer Science



Project AIO



Name : Bhavesh Malhotra

Class : XII 'A'

Roll no :

certificate

THIS IS TO CERTIFY THAT *Bhavesk Malhotra* OF CLASS XII 'A'
HAVE SUCCESSFULLY COMPLETED THEIR COMPUTER PROJECT
ON '**PROJECT AIO**' UNDER THE ABLE GUIDANCE OF

Dr. Anju Chellani
(P&T Computer Science)

NAME : *Bhavesk Malhotra*

ROLL NO :

CLASS : XII 'A'

Acknowledgement

I would like to thank *Dr. Anju Chellani, PGT Computer Science*, for her able guidance and the support exhibited by her in the completion of the project.

It gave me great pleasure in presenting this project. I extend my gratitude to our class mate for conveying their valuable suggestions to improve the quality of this project and its value. This project has contributed invariably in improving and increasing our knowledge about this language which will hopefully prove to be profitable for us in future.

Thanking you

Bhavesh Malhotra

About C++

C++ is a statically typed, free-form, multi-paradigm, compiled, general-purpose programming. It is regarded as an intermediate-level language, as it comprises a combination of both high and low-level language features. Developed by Bjarne Stroustrup starting in 1979 at Bell Labs, it adds object oriented features, such as classes, and other enhancements to the C programming language. Originally named **C with Classes**, the language was renamed C++ in 1983, as a pun involving the increment operator.

C++ is one of the most popular programming languages and is implemented on a wide variety of hardware and operating system platforms. As an efficient compiler to native code, its application domains include systems software, application software, device drivers, embedded software, high-performance server and client applications, and entertainment software such as video games. Several groups provide both free and proprietary C++ compiler software, including the GNU Project, Microsoft, Intel and Embarcadero Technologies. C++ has greatly influenced many other popular programming languages, most notably C# and Java. Other successful languages such as Objective-C use a very different syntax and approach to adding classes to C.

C++ is also used for hardware design, where the design is initially described in C++, then analysed, architecturally constrained, and scheduled to create a register-transfer level hardware description language via high.

The language began as enhancements to C, first adding classes, then virtual functions, overloading, multiple, templates and exception handling among other features. After years of development, the C++ programming language standard was ratified in 1998 as *ISO/IEC 14882:1998*. The standard was amended by the 2003 technical corrigendum, *ISO/IEC 14882:2003*. The current standard extending C++ with new features was ratified and published by ISO in September 2011 as *ISO/IEC 14882:2011* (Informally known as C++11).

PROGRAM
SOURCE
CODE

```
#include<stdio.h>
#include<stdlib.h>
#include<fstream.h>
#include<string.h>
#include<conio.h>
#include<ctype.h>
#include<math.h>
```

```
int matrixfunc1(int f,int b[10][10][10],int p[10],int q[10]);
int matrixfunc2(int q,int p,int b[10][10]);
int matrixfunc3(int q,int p,int b[10][10]);
int matrixfunc4_1(int q,int p,int b[10][10]);
int matrixfunc4_2(int q,int p,int b[10][10]);
int fac(int a);
float cbr(float x);
float root(float b,float c);
```

```
int a[3][3],t,y,game=1,win=0,lose=0,tie=0,twin,tlose,ttie;
char name[30],str[500];
```

```
class ttt{
    public:
        int st();
        int store();
        int loadval();
        int showdt();
        int ifexist();
        int delrec();
    private:
        void print();
        int check();
        void pin();
        int defend(int c, int p, int b);
        int attack();
        void ai(int b);
};

void ttt::print()
{
    clrscr();
    int i,j;
    cout<<"\n";
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
```

```

        {
            if(a[i][j]==0)
                cout<<" .\t";
            else if(a[i][j]==1)
                cout<<" X\t";
            else
                cout<<" O\t";
        }
        cout<<endl;
    }
    gotoxy(1,6);
}

int ttt::check()
{
    for(int i=0;i<3;i++)
        if((a[i][0]!=0&&a[i][0]==a[i][1]
            &&a[i][1]==a[i][2]) || (a[0][i]!=0&&a[0][i]==a[1][i]&&a[1][i]==a[2][i]))
            return 1;
        if(a[0][0]!=0&&a[0][0]==a[1][1]&&a[1][1]==a[2][2])
            return 1;
        else if(a[0][2]!=0&&a[0][2]==a[1][1]&&a[1][1]==a[2][0])
            return 1;
        else
            return 0;
}

void ttt::pin()
{
    int r=0,c=0;
    cout<<" Enter row: ";
    cin>>r;
    cout<<" Enter column: ";
    cin>>c;
    r--;
    c--;
    if(r>2 || c>2 || r<0 || c<0)
    {
        cout<<" enter correct value"<<endl;
        pin();
    }
    else if(a[r][c]!=0)
    {
        cout<<" It is already filled.\n";
        pin();
    }
}

```

```

else
    a[r][c]=t;
}
int ttt::defend(int c, int p, int b)
{
    if(b<3)
        return 0;
    else if(a[0][0]+a[1][1]+a[2][2]==2*c&&a[0][0]!=p&&a[1][1]!=p&&a[2][2]!=p)
    {
        for(int i=0;i<3;i++)
        {
            if(a[i][i]==0)
            {
                a[i][i]=y;
                return 1;
            }
        }
    }
    else if(a[0][2]+a[1][1]+a[2][0]==2*c&&a[0][2]!=p&&a[1][1]!=p&&a[2][0]!=p)
    {
        for(int i=0;i<3;i++)
        {
            if(a[i][2-i]==0)
            {
                a[i][2-i]=y;
                return 1;
            }
        }
    }
    else
    {
        int i,j;
        for(i=0;i<3;i++)
        {
            if(a[i][0]+a[i][1]+a[i][2]==2*c&&a[i][0]!=p&&a[i][1]!=p&&a[i][2]!=p)
            {
                for(j=0;j<3;j++)
                {
                    if(a[i][j]==0)
                    {
                        a[i][j]=y;
                        return 1;
                    }
                }
            }
        }
    }
}

```



```

    }
    else
    if(a[0][i]+a[1][i]+a[2][i]==2*c&& a[0][i]!=p&& a[1][i]!=p&& a[2][i]!=p)
    {
        for(j=0;j<3;j++)
        {
            if(a[j][i]==0)
            {
                a[j][i]=y;
                return 1;
            }
        }
    }
}
return 0;
}
int ttt::attack()
{
    int i,j;
    if(a[0][0]+a[0][2]+a[2][0]+a[2][2]==t | a[0][0]+a[0][2]+a[2][0]+a[2][2]==2*t)
    {
        for(i=0;i<3;i++)
        {
            if(a[i][0]+a[i][1]+a[i][2]==y&&(a[i][0]==y | a[i][1]==y | a[i][2]==y))
            {
                if(i==1)
                {
                    for(j=0;j<3;j++)
                    {
                        if(a[i][j]==0)
                        {
                            a[i][j]=y;
                            return 1;
                        }
                    }
                }
                else
                {
                    for(j=2;j>=0;j--)
                    {
                        if(a[i][j]==0)
                        {
                            a[i][j]=y;

```

```

        return 1;
    }
}
}
}
if(a[0][i]+a[1][i]+a[2][i]==y&&(a[0][i]==y | a[1][i]==y | a[2][i]==y))
{
    if(i==1)
    {
        for(j=0;j<3;j++)
        {
            if(a[j][i]==0)
            {
                a[j][i]=y;
                return 1;
            }
        }
    }
    else
    {
        for(j=2;j>=0;j--)
        {
            if(a[j][i]==0)
            {
                a[j][i]=y;
                return 1;
            }
        }
    }
}
}
if(a[0][0]+a[1][1]+a[2][2]==y && (a[0][0]==y | a[1][1]==y | a[2][2]==y))
{
    for(i=2;i>=0;i--)
    {
        if((a[i][i]==0)&&((a[i][0]+a[i][1]+a[i][2]==y&&(a[i][0]==y | a[i][1]==y | a[i][2]==y)) | ((a[0][i]+a[1][i]+a[2][i]==y)&&(a[0][i]==y | a[1][i]==y | a[2][i]==y))))
        {
            a[i][i]=y;
            return 1;
        }
    }
}
for(i=2;i>=0;i--)

```

```

{
    if(a[i][i]==0)
    {
        if((a[i][0]+a[i][1]+a[i][2]==t&&(a[i][0]==t | a[i][1]==t | a[i][2]==t))&&(a[0][i]+a[1][i]+a[2][i]==t&&(a[0][i]==t | a[1][i]==t | a[2][i]==t)))
        {
            a[i][i]=y;
            return 1;
        }
    }
}
for(i=2;i>=0;i--)
{
    if(a[i][i]==0)
    {
        a[i][i]=y;
        return 1;
    }
}
}
else
if(a[0][2]+a[1][1]+a[2][0]==y&&(a[0][2]==y | a[1][1]==y | a[2][0]==y))
{
    for(i=2;i>=0;i--)
    {
        if(a[i][2-i]==0&&((a[i][0]+a[i][1]+a[i][2]==y&&(a[i][0]==y | a[i][1]==y | a[i][2]==y)) | ((a[0][2-i]+a[1][2-i]+a[2][2-i]==y)&&(a[0][2-i]==y | a[1][2-i]==y | a[2][2-i]==y))))
        {
            a[i][2-i]=y;
            return 1;
        }
    }
}
for(i=2;i>=0;i--)
{
    if(a[i][2-i]==0)
    {
        if((a[i][0]+a[i][1]+a[i][2]==t&&(a[i][0]==t | a[i][1]==t | a[i][2]==t))&&(a[0][2-i]+a[1][2-i]+a[2][2-i]==t&&(a[0][2-i]==t | a[1][2-i]==t | a[2][2-i]==t)))
        {
            a[i][2-i]=y;
            return 1;
        }
    }
}

```

```

        }
    }
}
for(i=2;i>=0;i--)
{
    if(a[i][2-i]==0)
    {
        a[i][2-i]=y;
        return 1;
    }
}
}
else
{
    if(a[0][0]+a[1][1]+a[2][2]==y && (a[0][0]==y | a[1][1]==y | a[2][2]==y))
    {
        for(i=2;i>=0;i--)
        {
            if((a[i][i]==0)&&((a[i][0]+a[i][1]+a[i][2]==y&&
            (a[i][0]==y | a[i][1]==y |
            a[i][2]==y)) | ((a[0][i]+a[1][i]+a[2][i]==y)&&
            (a[0][i]==y | a[1][i]==y | a[2][i]==y))))
            {
                a[i][i]=y;
                return 1;
            }
        }
        for(i=2;i>=0;i--)
        {
            if(a[i][i]==0)
            {
                if((a[i][0]+a[i][1]+a[i][2]==t&&(a[i][0]==t | a[i][1]==t |
                a[i][2]==t))&&(a[0][i]+a[1][i]+a[2][i]==t&&
                (a[0][i]==t | a[1][i]==t | a[2][i]==t)))
                {
                    a[i][i]=y;
                    return 1;
                }
            }
        }
        for(i=2;i>=0;i--)
        {
            if(a[i][i]==0)
            {

```

```

        a[i][i]=y;
        return 1;
    }
}
else
if(a[0][2]+a[1][1]+a[2][0]==y&&(a[0][2]==y | a[1][1]==y | a[2][0]==y))
{
    for(i=2;i>=0;i--)
    {
        if(a[i][2-i]==0&&((a[i][0]+a[i][1]+a[i][2]==y&&(a[i][0]==y |
a[i][1]==y | a[i][2]==y)) | ((a[0][2-i]+a[1][2-i]+a[2][2-i]==y)&&
(a[0][2-i]==y | a[1][2-i]==y | a[2][2-i]==y))))
        {
            a[i][2-i]=y;
            return 1;
        }
    }
    for(i=2;i>=0;i--)
    {
        if(a[i][2-i]==0)
        {
            if((a[i][0]+a[i][1]+a[i][2]==t&&(a[i][0]==t | a[i][1]==t |
a[i][2]==t))&&(a[0][2-i]+a[1][2-i]+a[2][2-i]==t&&
(a[0][2-i]==t | a[1][2-i]==t | a[2][2-i]==t)))
            {
                a[i][2-i]=y;
                return 1;
            }
        }
    }
    for(i=2;i>=0;i--)
    {
        if(a[i][2-i]==0)
        {
            a[i][2-i]=y;
            return 1;
        }
    }
}
else
{
    for(i=0;i<3;i++)
    {

```

```

if(a[i][0]+a[i][1]+a[i][2]==y&&(a[i][0]==y | a[i][1]==y | a[i][2]==y))
{
    if(i==1)
    {
        for(int j=0;j<3;j++)
        {
            if(a[i][j]==0)
            {
                a[i][j]=y;
                return 1;
            }
        }
    }
    else
    {
        for(j=2;j>=0;j--)
        {
            if(a[i][j]==0)
            {
                a[i][j]=y;
                return 1;
            }
        }
    }
}
else
if(a[0][i]+a[1][i]+a[2][i]==y&&
(a[0][i]==y | a[1][i]==y | a[2][i]==y))
{
    if(i==1)
    {
        for(j=0;j<3;j++)
        {
            if(a[j][i]==0)
            {
                a[j][i]=y;
                return 1;
            }
        }
    }
    else
    {
        for(j=2;j>=0;j--)
        {

```

```

        if(a[j][i]==0)
        {
            a[j][i]=y;
            return 1;
        }
    }
}
}
}
}
}
}
return 0;
}
}
void ttt::ai(int b)
{
    if(!defend(y,t,b))
    {
        if(!defend(t,y,b))
        {
            if((a[0][0]+a[0][2]+a[2][0]+a[2][2]==t+y ||
a[0][0]+a[0][2]+a[2][0]+a[2][2]==t+2*y)&& a[1][1]==0)
            {
                for(int i=0;i<3;i+=2)
                {
                    for(int j=0;j<3;j+=2)
                    {
                        if(a[i][j]==0)
                        {
                            a[i][j]=y;
                            goto end;
                        }
                    }
                }
            }
            else if(b==2&&a[1][1]==0)
            {
                a[1][1]=y;
                goto end;
            }
            if(!attack())
            {
                if(b==0)
                {
                    randomize();

```

```

        a[(random(3)%2)*2][(random(3)%2)*2]=y;
        goto end;
    }
    else
    if(a[1][1]==0)
    {
        a[1][1]=y;
        goto end;
    }
    else
    {
        int i,j;
        for(i=0;i<3;i++)
        {
            for(j=0;j<3;j++)
            {
                if(a[i][j]==0)
                {
                    a[i][j]=y;
                    goto end;
                }
            }
        }
    }
}
}
}
end:
cout<<endl;
}
int ttt::st()
{
start:
    int i,j;
    for(i=0;i<3;i++)
    for(j=0;j<3;j++)
    a[i][j]=0;
    if(game==1)
    {
        cout<<"\n What is your good name? ";
        gets(name);
        cout<<"\n Hi "<<name;
        cout<<" wanna play tic tac toe?\n Let's see who will win";
        cout<<"\n "<<name<<" wanna go 1st or 2nd? : ";
    }
}

```



```

    }
    else
    {
        cout<<"\n Wanna go 1st or 2nd : ";
    }
input:
    cin>>t;
    switch(t)
    {
        case 1:
            y=2;
            cout<<"\n So your symbol is X.\n And mine is O.";
            cout<<"\n\n Let's start the game.";
            getch();
            print();
            for(i=0;i<9;)
            {
                pin();
                print();
                i++;
                if(i>4)
                {
                    if(check())
                    {
                        cout<<" oh you won "<<name<<endl;
                        win += 1;
                        break;
                    }
                }
                if(i>=8)
                    break;
                ai(i);
                print();
                i++;
                if(i>5)
                {
                    if(check())
                    {
                        strcpy(str,"\n It is impossible to beat me ");
                        strcat(str,name);
                        lose += 1;
                        cout<<str<<endl;
                        break;
                    }
                }
            }
        }
    }
}

```

```

    }
}
break;
case 2:
    y=1;
    cout<<"\n So your symbol is O.\n And mine is X.";
    cout<<"\n\n Let's start the game.";
    getch();
    print();
    for(i=0;i<9;)
    {
        ai(i);
        print();
        i++;
        if(i>4)
        {
            if(check())
            {
                strcpy(str," It is impossible to beat me ");
                strcat(str,name);
                cout<<str<<endl;
                lose += 1;
                break;
            }
        }
        if(i>=8)
            break;
        pin();
        print();
        i++;
        if(i>5)
        {
            if(check())
            {
                cout<<" oh you won "<<name<<endl;
                win += 1;
                break;
            }
        }
    }
    break;
default:
    strcpy(str," Hey, ");
    strcat(str,name);

```

```

        strcat(str, " you need to enter either 1 or 2.");
        puts(str);
        cout<<"\n Enter again: ";
        goto input;
    }
    if(!check())
    {
        cout<<" Well Played!\n It is a tie.\n";
        tie += 1;
    }
    char c;
    cout<<" do u wanna play again "<<name<<"(y/n) : ";
    cin>>c;
    if(c=='y' || c=='Y')
    {
        game++;
        clrscr();
        goto start;
    }
    else
        return 0;
}

int ttt::store(){
    ofstream ofs;
    ttie +=tie;
    twin +=win;
    tlose +=lose;
    ofs.open("savee.txt");
    ofs<<"LAST USER : "<<name<<endl;
    ofs<<"NO OF TIES IN TOTAL : "<<ttie<<endl;
    ofs<<"NO OF WINS IN TOTAL : "<<twin<<endl;
    ofs<<"NO OF LOSE IN TOTAL : "<<tlose<<endl;
    ofs.close();
    return 0;
}

int ttt::loadval(){
    ifstream ifs;
    int fgs=-1;
    char ch;
    bool vol;
    ifs.open("savee.txt");
    while(!ifs.eof())
    {
        ifs.get(ch);
    }

```

```

        if(isdigit(ch))
        {
            fgs++;
            vol = 1;
        }
        else
        vol = 0;
        if(fgs==0&&vol==1)
            ttie=atoi(&ch);
        else if(fgs==1&&vol==1)
            twin=atoi(&ch);
        else if(fgs==2&&vol==1)
            tlose=atoi(&ch);
    }
    return 0;
}

int ttt::showdt()
{
    char chx[100];
    int i = 4;
    ifstream fs;
    fs.open("savee.txt");
    cout<<"\n Records : ";
    while(!fs.eof())
    {
        fs.getline(chx,50);
        gotoxy(4,i);
        if(strcmp(chx,"000")==0){
            cout<<"Empty";
            break;
        }
        else
            cout<<(chx);
            i++;
    }
    fs.close();
    return 0;
}

int ttt::ifexist(){
    ofstream oofs;
    oofs.open("savee.txt");
    if(oofs.fail())
    {
        for(int i = 0;i<3;i++)

```

```

        {
            oofs<<"0";
        }
    }
    oofs.close();
    return 0;
}

int ttt::delrec(){
    ofstream o1fs;
    o1fs.open("savee.txt");
    {
        for(int i = 0;i<3;i++)
        {
            o1fs<<"0";
        }
    }
    o1fs.close();
    return 0;
}

void main()
{
    int p = 1;
    while(p)
    {
        char sh;
        clrscr();
        gotoxy(8,2);
        cout<<"Project AIO";
        gotoxy(7,3);
        cout<<" Main menu : "<<endl;
        cout<<endl;
        cout<<" 1. Calculator"<<endl;
        cout<<" 2. Matrix calculator"<<endl;
        cout<<" 3. Games"<<endl;
        cout<<" 4. File reader"<<endl;
        cout<<" 5. Notepad"<<endl;
        cout<<" 6. Exit"<<endl;
        sh = getch();
        switch(sh)
        {
            case '1':
            {
                int ch2=1;
                while(ch2)

```

```

{
    double x,y,val,PI=3.14159265;
    val = PI / 180;
    char z;
    clrscr();
    gotoxy(16,4);
    cout<<"Calculator : "<<endl;
    gotoxy(6,6);
    cout<<"1./"<<endl;
    gotoxy(16,6);
    cout<<"2.*"<<endl;
    gotoxy(26,6);
    cout<<"3.-"<<endl;
    gotoxy(36,6);
    cout<<"4.+ "<<endl;
    gotoxy(6,8);
    cout<<"5.pow"<<endl;
    gotoxy(16,8);
    cout<<"6.log"<<endl;
    gotoxy(26,8);
    cout<<"7.ln"<<endl;
    gotoxy(36,8);
    cout<<"8.sin"<<endl;
    gotoxy(6,10);
    cout<<"9.cos"<<endl;
    gotoxy(16,10);
    cout<<"0.tan"<<endl;
    gotoxy(26,10);
    cout<<"a.sqr"<<endl;
    gotoxy(36,10);
    cout<<"b.cbr"<<endl;
    gotoxy(6,12);
    cout<<"c.root"<<endl;
    gotoxy(16,12);
    cout<<"d.!"<<endl;
    gotoxy(26,12);
    cout<<"e.exp "<<endl;
    gotoxy(6,14);
    cout<<"enter any operator"<<endl;
    gotoxy(30,21);
    cout<<"x -> exit"<<endl;
    z=getch();
    if(z=='1')
    {

```

```

        gotoxy(6,15);
        cout<<"enter no : ";
        cin>>x;
        gotoxy(6,16);
        cout<<"enter 2nd no : ";
        cin>>y;
        gotoxy(6,17);
        cout<<x<<" / "<<y<<" = "<<(x/y);
    }
    else
    if(z=='2')
    {
        gotoxy(6,15);
        cout<<"enter no : ";
        cin>>x;
        gotoxy(6,16);
        cout<<"enter 2nd no : ";
        cin>>y;
        gotoxy(6,17);
        cout<<x<<" * "<<y<<" = "<<(x*y);
    }
    else
    if(z=='3')
    {
        gotoxy(6,15);
        cout<<"enter no : ";
        cin>>x;
        gotoxy(6,16);
        cout<<"enter 2nd no : ";
        cin>>y;
        gotoxy(6,17);
        cout<<x<<" - "<<y<<" = "<<(x-y);
    }
    else
    if(z=='4')
    {
        gotoxy(6,15);
        cout<<"enter no : ";
        cin>>x;
        gotoxy(6,16);
        cout<<"enter 2nd no : ";
        cin>>y;
        gotoxy(6,17);
        cout<<x<<" + "<<y<<" = "<<(x+y);
    }

```

```

}
else
if(z=='5')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"enter its power : ";
    cin>>y;
    gotoxy(6,17);
    cout<<x<<"^"<<y<<" = "<<pow(x,y);
}
else
if(z=='6')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"log("<<x<<)"<<" = "<<log10(x);
}
else
if(z=='7')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"Naturallog("<<x<<)"<<" = "<<log(x);
}
else
if(z=='8')
{
    gotoxy(6,15);
    cout<<"enter in deg : ";
    cin>>x;
    gotoxy(6,16);
    if(x==0)
        cout<<"sin(0) = 0"<<endl;
    else
        cout<<"sin("<<x<<)"<<" = "<<sin(x*val);
}
else

```



```

if(z=='9')
{
    gotoxy(6,15);
    cout<<"enter in deg : ";
    cin>>x;
    gotoxy(6,16);
    if(x==90)
        cout<<"cos(90) = 0"<<endl;
    else
        cout<<"cos("<<x<<")"<<" = "<<cos(x*val);
}
else
if(z=='0')
{
    gotoxy(6,15);
    cout<<"enter in deg : ";
    cin>>x;
    gotoxy(6,16);
    if(x==90){
        char p=236;
        cout<<"tan(90) = "<<p;
    }
    else
        cout<<"tan("<<x<<") = "<<tan(x*val);
}
else
if(z=='a')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"root of "<<x<<" = "<<pow(x,0.5);
}
else
if(z=='d')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<x<<"! = "<<fac(x);
}
else

```

```

if(z=='c')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"enter its root number : ";
    cin>>y;
    gotoxy(6,17);
    cout<<y<<" root "<<x<<" = "<<root(x,y);
}
else
if(z=='b')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    cout<<"cube root of "<<x<<" = "<<cbr(x);
}
else
if(z=='e')
{
    gotoxy(6,15);
    cout<<"enter no : ";
    cin>>x;
    gotoxy(6,16);
    if(x > 709){
        char pp=236;
        cout<<"exp("<<x<<" = "<<pp;
    }
    else
    cout<<"exp("<<x<<" = "<<exp(x);
}
else
if(z=='x')
{
    ch2 = 0;
    break;
}
else
{
    gotoxy(6,15);
    cout<<"invalid option";
}

```

```

        }
        cout<<endl;
        gotoxy(5,18);
        getch();
    }
    break;
}
case '2':
{
    int coe = 1;
    while(coe)
    {
        clrscr();
        int x;
        gotoxy(7,3);
        cout<<"Matrix calculator : "<<endl;
        cout<<endl;
        cout<<" 1. add matrix"<<endl;
        cout<<" 2. sum of row`s and sum of column's"<<endl;
        cout<<" 3. addition of above diagonal and bellow “;
        cout<<" diagonal"<<endl;
        cout<<" 4. sum of diagonal"<<endl;
        cout<<" 5. exit"<<endl;
        x=getch();
        switch(x)
        {
            case '1':
            {
                char mx;
                do
                {
                    char gx;
                    clrscr();
                    int f,n[10],m[10],a[10][10][10],i,j,k;
                    cout<<"the numbers of matrix : ";
                    cin>>f;
                    for(k=0;k<f;k++)
                    {
                        cout<<"enter the no of row's for “;
                        cout<<(k+1)<<" matrix : ";
                        cin>>n[k];
                    }
                    for(k=0;k<f;k++)
                    {

```

```

        cout<<"enter the no of column's for ";
        cout<<(k+1)<<" matrix : ";
        cin>>m[k];
    }
    for(k=0;k<f;k++)
    {
        cout<<"enter value for matrix";
        cout<<(k+1)<<endl;
        for(i=0;i<n[k];i++)
        {
            for(j=0;j<m[k];j++)
            {
                cin>>a[k][i][j];
            }
        }
    }
    matrixfuncl(f,a,n,m);
    cout<<"y to continue again e to exit"<<endl;
    gx=getch();
    if(gx == 'y')
    {
        mx='y';
    }
    else if(gx == 'e')
    {
        mx='n';
    }
    }
    while(mx=='y');
    break;
}
case '2':
{
    char mx;
    do
    {
        char gx;
        clrscr();
        int a[10][10],i,j,m,n;
        cout<<"enter no of row's for matrix : ";
        cin>>m;
        cout<<"enter no of column's for matrix : ";
        cin>>n;
        cout<<"enter values for matrix : "<<endl;

```

```

for(i=0;i<m;i++)
{
    for(j=0;j<n;j++)
    {
        cin>>a[i][j];
    }
}
matrixfunc2(m,n,a);
cout<<"y to continue again e to exit"<<endl;
gx=getch();
if(gx == 'y')
{
    mx='y';
}
else if(gx == 'e')
{
    mx='n';
}
}
while(mx=='y');
break;
}
case '3':
{
    char mx;
    do
    {
        char gx;
        clrscr();
        int a[10][10],i,j,m,n;
        cout<<"enter no of row's for matrix : ";
        cin>>m;
        cout<<"enter no of column's for matrix : ";
        cin>>n;
        cout<<"enter values for matrix : "<<endl;
        for(i=0;i<m;i++)
        {
            for(j=0;j<n;j++)
            {
                cin>>a[i][j];
            }
        }
        matrixfunc3(m,n,a);
        cout<<"y to continue again e to exit"<<endl;
    }
}

```

```

gx=getch();
if(gx == 'y')
{
    mx='y';
}
else if(gx == 'e')
{
    mx='n';
}
}
while(mx=='y');
break;
}
case '4':
{
    int jio = 1;
    while(jio)
    {
        clrscr();
        int w;
        gotoxy(7,3);
        cout<<"Matrix calculator : "<<endl;
        cout<<endl;
        cout<<" 1.Sum of left diagonal"<<endl;
        cout<<" 2.Sum of right diagonal"<<endl;
        cout<<" 3.Exit"<<endl;
        w=getch();
        switch(w)
        {
            case '1':
            {
                char mx;
                do
                {
                    char gx;
                    clrscr();
                    int a[10][10],i,j,m,n;
                    cout<<"enter no of row's for matrix : ";
                    cin>>m;
                    cout<<"enter no of column's for matrix : ";
                    cin>>n;
                    cout<<"enter values for matrix : "<<endl;
                    for(i=0;i<m;i++)
                    {

```

```

        for(j=0;j<n;j++)
        {
            cin>>a[i][j];
        }
    }
    matrixfunc4_1(m,n,a);
    cout<<"y to continue again e to exit"<<endl;
    gx=getch();
    if(gx == 'y')
    {
        mx='y';
    }
    else if(gx == 'e')
    {
        mx='n';
    }
    }
    while(mx=='y');
    break;
}
case '2':
{
    char mx;
    do
    {
        char gx;
        clrscr();
        int a[10][10],i,j,m,n;
        cout<<"enter no of row's for matrix : ";
        cin>>m;
        cout<<"enter no of column's for matrix : ";
        cin>>n;
        cout<<"enter values for matrix : "<<endl;
        for(i=0;i<m;i++)
        {
            for(j=0;j<n;j++)
            {
                cin>>a[i][j];
            }
        }
        matrixfunc4_2(m,n,a);
        cout<<"y to continue again e to exit"<<endl;
        gx=getch();
        if(gx == 'y')

```

```

        {
            mx='y';
        }
        else if(gx == 'e')
        {
            mx='n';
        }
    }
    while(mx=='y');
    break;
}
case '3':
{
    jio = 0;
    break;
}
default:
{
    cout<<" Invalid option";
    getch();
    break;
}
}
}
break;
}
case '3':
{
    ttt t1;

```



```

char swit;
int vald = 1;
while(vald)
{
win = lose = tie = 0;
game = 1;
clrscr();
gotoxy(7,3);
cout<<"Games : "<<endl;
cout<<endl;
cout<<" 1. Play tic tac toe"<<endl;
cout<<" 2. Show records"<<endl;
cout<<" 3. Delete records"<<endl;
cout<<" 4. Exit"<<endl;
swit = getch();
switch(swit)
{
    case '1':
        clrscr();
        t1.ifexist();
        t1.st();
        cout<<" No of wins in this match : "<<win<<endl;
        cout<<" No of lose in this match : "<<lose<<endl;
        cout<<" No of ties in this match : "<<tie<<endl;
        getch();
        t1.loadval();
        t1.store();
        break;
    case '2':
        clrscr();
        t1.showdt();
        cout<<endl;
        getch();
        break;
    case '3':
        cout<<" Done"<<endl;
        t1.delrec();
        getch();
        break;
    case '4':
        vald = 0;
        break;
    default:
        cout<<"\nwrong option. Try again"<<endl;

```

```

        getch();
        break;
    }
}
break;
}
case '4':
{
    int valid=1;
    char pico;
    while(valid)
    {
        int i = 7;
        getch();
        ifstream op;
        gotoxy(5,3);
        char cac[100];
        char filename[50];
        cout<<"explorer v1.0 :"<<endl;
        gotoxy(3,5);
        cout<<"enter the file name : ";
        gets(filename);
        op.open(filename);
        if(!op.fail())
        {
            while(!op.eof())
            {
                op.getline(cac,900);
                gotoxy(3,i);
                puts(cac);
                i++;
            }
        }
        else
            cout<<" file does not exist"<<endl;
        op.close();
        getch();
        cout<<" do you wanna see anything else(y/n) : ";
        pico = getch();
        if(pico!='y')
            valid = 0;
    }
    break;
}
}

```

```

case '5':{
    int vali,cmo,rmo,nmo,i;
    char pio,pmh;
    vali = 1;
    while(vali)
    {
        cmo = rmo = nmo = 1;
        i = 7;
        getch();
        ifstream opmm;
        ofstream opmm1,opmm2,opmm3;
        char line[100];
        char filenam[50];
        gotoxy(5,3);
        cout<<"notepad v1.0 : \t\t\t\t\t type /exit to exit"<<endl;
        gotoxy(3,5);
        cout<<"enter the filename : ";
        gets(filenam);
        opmm.open(filenam);
        if(!opmm.fail())
        {
            cout<<" file exist do you wanna overwrite(y/n) : ";
            cin>>pmh;
            if(pmh == 'y')
            {
                opmm2.open(filenam);
                while(cmo)
                {
                    gotoxy(3,i);
                    gets(line);
                    if(strcmp(line,"/exit")==0)
                        cmo = 0;
                    else
                        opmm2<<line<<endl;
                    i++;
                }
                opmm2.close();
            }
            else
            {
                opmm1.open(filenam,ios::app);
                while(rmo)
                {
                    gotoxy(3,i);

```

```

        gets(line);
        if(strcmp(line, "/exit")==0)
            rmo = 0;
        else
            opmm1<<line<<endl;
        i++;
    }
    opmm1.close();
}
}
else if(opmm.fail())
{
    cout<<" file doesn't exist creating new file : "<<endl;
    opmm3.open(filenam);
    while(nmo)
    {
        gotoxy(3,i);
        gets(line);
        if(strcmp(line, "/exit")==0)
            nmo = 0;
        else
            opmm3<<line<<endl;
        i++;
    }
    opmm3.close();
}
opmm.close();
getch();
cout<<" do you wanna write anything else(y/n) : ";
pio = getch();
if(pio!='y')
    vali = 0;
}
break;
}
case '6':
    p=0;
    getch();
    break;
default:
    cout<<"invalid option. Try again";
    getch();
    break;
}

```

```

    }
}
int matrixfunc1(int f,int b[10][10][10],int p[10],int q[10])
{
    int s,l,m;
    for(s=0;s<f;s++)
    {
        cout<<"The matrix "<<(s+1)<<" is "<<endl;
        for(l=0;l<p[s];l++)
        {
            for(m=0;m<q[s];m++)
            {
                cout<<b[s][l][m]<<"\t";
            }
            cout<<endl;
        }
    }
    for(l=0;l<p[f-1];l++)
    {
        for(m=0;m<q[f-1];m++)
        {
            for(s=1;s<f;s++)
            {
                b[0][l][m]=b[0][l][m]+b[s][l][m];
            }
        }
    }
    cout<<endl<<"the sum of matix is "<<endl;
    for(l=0;l<p[f-1];l++)
    {
        for(m=0;m<q[f-1];m++)
        {
            cout<<b[0][l][m]<<"\t";
        }
        cout<<endl;
    }
    return 0;
}
int matrixfunc2(int q,int p,int b[10][10])
{
    int a,s,r[10],c[10];
    cout<<"The matrix is "<<endl;
    for(a=0;a<q;a++)
    {

```

```

        for(s=0;s<p;s++)
        {
            cout<<b[a][s]<<"\t";
        }
        cout<<endl;
    }
    for(a=0;a<q;a++)
    {
        r[a]=0;
        for(s=0;s<p;s++)
        {
            r[a]=r[a]+b[a][s];
        }
    }
    for(s=0;s<p;s++)
    {
        c[s]=0;
        for(a=0;a<q;a++)
        {
            c[s]=c[s]+b[a][s];
        }
    }
    for(a=0;a<q;a++)
    {
        cout<<"The sum of row "<<(a+1)<<" is : "<<r[a]<<endl;
    }
    for(s=0;s<p;s++)
    {
        cout<<"The sum of column "<<(s+1)<<" is : "<<c[s]<<endl;
    }
    return 0;
}

int matrixfunc3(int q,int p,int b[10][10])
{
    int a,s,sabove=0,sbelow=0;
    cout<<"The matrix is "<<endl;
    for(a=0;a<q;a++)
    {
        for(s=0;s<p;s++)
        {
            cout<<b[a][s]<<"\t";
        }
        cout<<endl;
    }
}

```

```

    for(a=0;a<q;a++)
    {
        for(s=0;s<p;s++)
        {
            if(a>s)
                sbelow = sbelow + b[a][s];
            else
                if(a<s)
                    sabove = sabove + b[a][s];
        }
    }
    cout<<"Sum of above diagonal is : "<<sabove<<endl;
    cout<<"Sum of below diagonal is : "<<sbelow<<endl;
    return 0;
}

int matrixfunc4_1(int q,int p,int b[10][10])
{
    int a,s,sdiag=0;
    cout<<"The matrix is "<<endl;
    for(a=0;a<q;a++)
    {
        for(s=0;s<p;s++)
        {
            cout<<b[a][s]<<"\t";
        }
        cout<<endl;
    }
    for(a=0;a<q;a++)
    {
        for(s=0;s<p;s++)
        {
            if(a==s)
                sdiag += b[a][s];
        }
    }
    cout<<"The sum of diagonal is : ";
    cout<<sdiag<<endl;
    return 0;
}

int matrixfunc4_2(int q,int p,int b[10][10])
{
    int a,s,sdiag=0;
    cout<<"The matrix is "<<endl;
    for(a=0;a<q;a++)

```

```

{
    for(s=0;s<p;s++)
    {
        cout<<b[a][s]<<"\t";
    }
    cout<<endl;
}
for(a=0;a<q;a++)
{
    for(s=0;s<p;s++)
    {
        if((a+s)==q-1)
        {
            sdiag = sdiag + b[a][s];
        }
    }
}
cout<<"The sum of diagonal is : "<<sdiag<<endl;
return 0;
}
int fac(int a)
{
    int s,m=1;
    for(s=a;s>=1;s--)
    {
        m=m*s;
    }
    return m;
}
float cbr(float x)
{
    float m;
    m = pow(x,1.0/3);
    return m;
}
float root(float b,float c)
{
    float z,x;
    z=1/c;
    x=pow(b,z);
    return x;
}

```


OUTPUT

```
ProjectXIII

Project AIO
Main menu :

1. Calculator
2. Matrix calculator
3. Games
4. File reader
5. Notepad
6. Exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!      e.exp
enter any operator

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!      e.exp
enter any operator
enter no : 5
enter 2nd no : 3
5 / 3 = 1.66667

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 3
enter 2nd no : 5
3 * 5 = 15

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 10
enter 2nd no : 3
10 - 3 = 7

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 10
enter 2nd no : 15
10 + 15 = 25

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 10
enter its power : 3
10^3 = 1000

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 10
log(10) = 1

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 10
Naturallog(10) = 2.30259

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 0
sin(0) = 0

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 45
sin(45) = 0.707107

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 45
cos(45) = 0.707107

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 90
cos(90) = 0

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 45
tan(45) = 1

x -> exit
```

```
ProjectXIII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter in deg : 90
tan(90) = ∞

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 4
root of 4 = 2

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 8
cube root of 8 = 2

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root   d.!     e.exp

enter any operator
enter no : 16
enter its root number : 4
4 root 16 = 2

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root    d.!     e.exp

enter any operator
enter no  : 5
5! = 120

-

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root    d.!     e.exp

enter any operator
enter no  : 1
exp(1) = 2.71828

-

x -> exit
```

```
ProjectXII

Calculator :

1./      2.*      3.-      4.+
5.pow    6.log    7.ln     8.sin
9.cos    0.tan    a.sqr    b.cbr
c.root    d.!     e.exp

enter any operator
enter no  : 1000
exp(1000) = ∞

-

x -> exit
```



```
ProjectXIII

Matrix calculator :

1. add matrix
2. sum of row's and sum of column's
3. addition of above diagonal and bellow diagonal
4. sum of diagonal
5. exit
```

```
ProjectXIII

the numbers of matrix : 3
enter the no of row's for 1 matrix : 2
enter the no of row's for 2 matrix : 2
enter the no of row's for 3 matrix : 2
enter the no of column's for 1 matrix : 2
enter the no of column's for 2 matrix : 2
enter the no of column's for 3 matrix : 2
enter value for matrix 1
1
2
3
4
enter value for matrix 2
5
6
7
8
enter value for matrix 3
1
2
5
6
The matrix 1 is
1 2
3 4
The matrix 2 is
5 6
7 8
The matrix 3 is
1 2
5 6

the sum of matix is
7 10
15 18
y to continue again e to exit
```

```
ProjectXIII

enter no of row's for matrix : 3
enter no of column's for matrix : 3
enter values for matrix :
1
2
3
4
5
6
7
8
9
The matrix is
1 2 3
4 5 6
7 8 9
The sum of row 1 is : 6
The sum of row 2 is : 15
The sum of row 3 is : 24
The sum of column 1 is : 12
The sum of column 2 is : 15
The sum of column 3 is : 18
y to continue again e to exit
```

```
ProjectXII
enter no of row's for matrix : 3
enter no of column's for matrix : 3
enter values for matrix :
1
2
3
4
5
6
7
8
9
The matrix is
1      2      3
4      5      6
7      8      9
Sum of above diagonal is : 11
Sum of below diagonal is : 19
y to continue again e to exit
```

```
ProjectXII

Matrix calculator :
1.Sum of left diagonal
2.Sum of right diagonal
3.Exit
```

```
ProjectXII
enter no of row's for matrix : 3
enter no of column's for matrix : 3
enter values for matrix :
1
0
0
0
1
0
0
0
1
The matrix is
1      0      0
0      1      0
0      0      1
The sum of diagonal is : 3
y to continue again e to exit
```

```
ProjectXIII
enter no of row's for matrix : 3
enter no of column's for matrix : 3
enter values for matrix :
0
0
1
0
1
0
1
0
0
0
The matrix is
0      0      1
0      1      0
1      0      0
The sum of diagonal is : 3
y to continue again e to exit
```

```
ProjectXIII

Games :
1. Play tic tac toe
2. Show records
3. Delete records
4. Exit
```

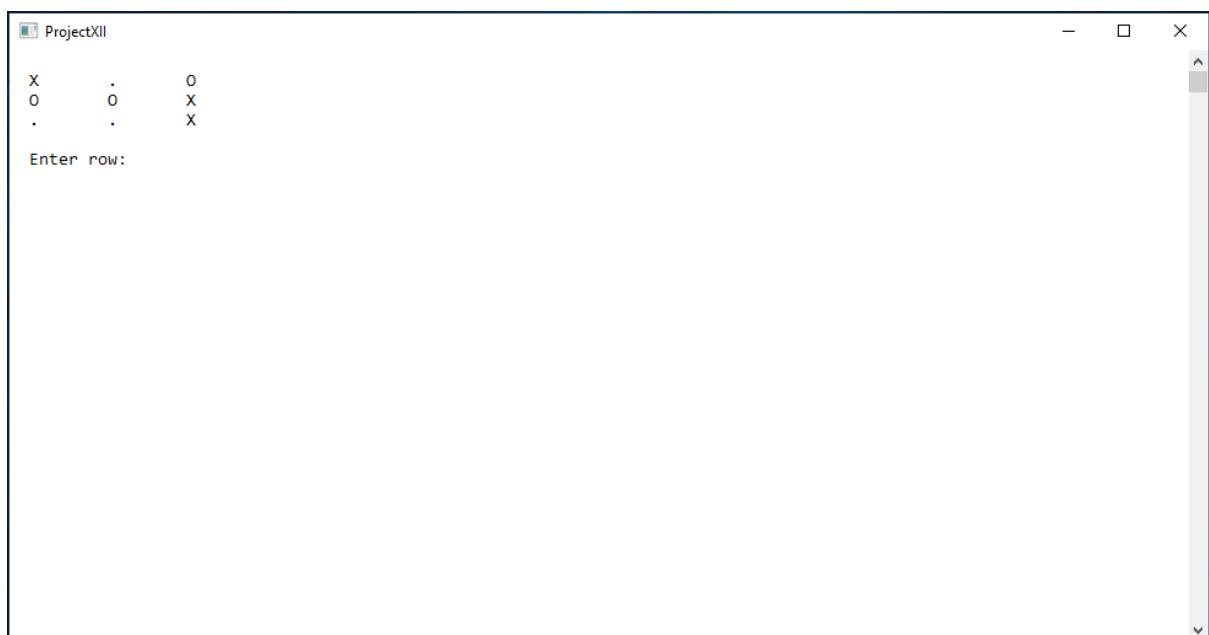
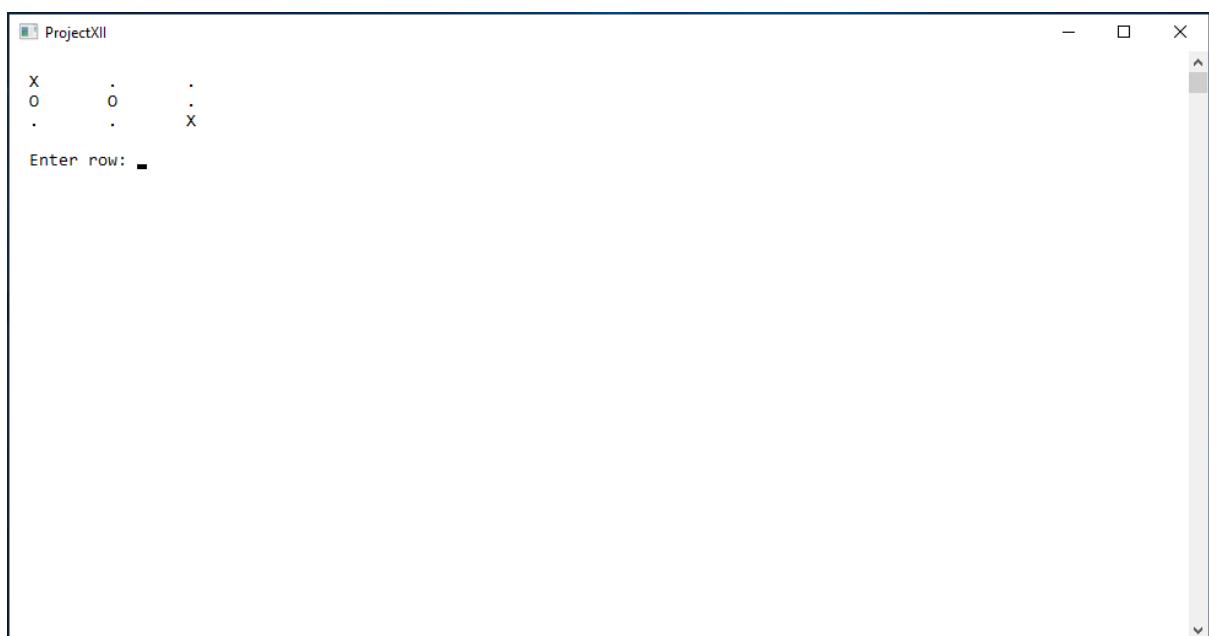
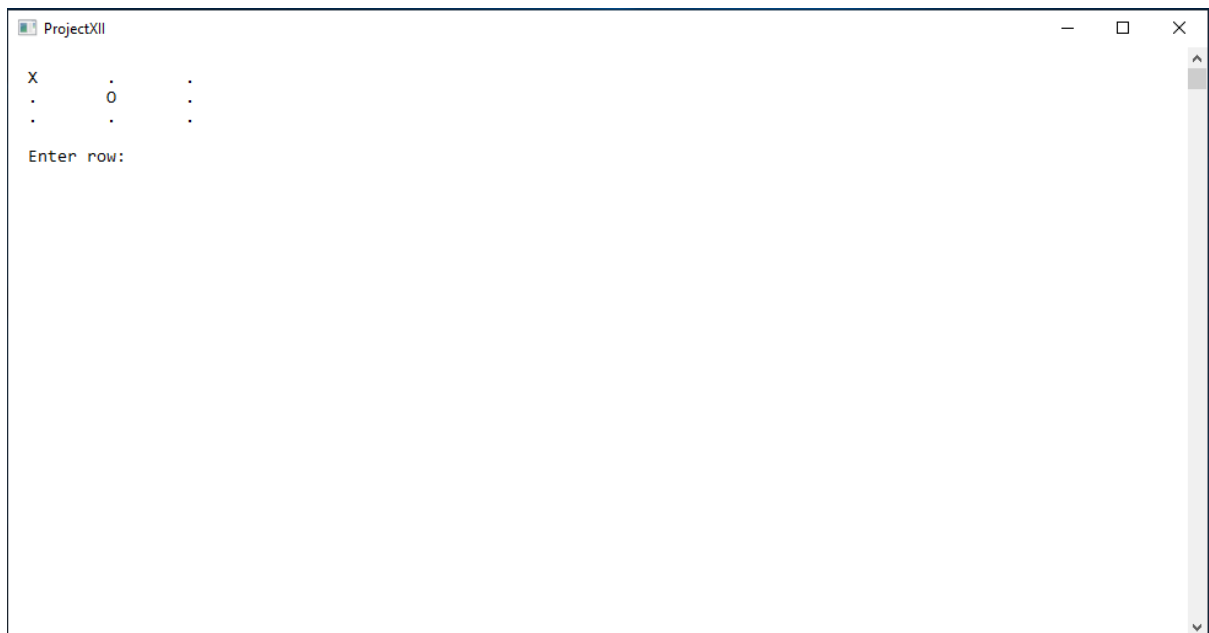
```
ProjectXIII

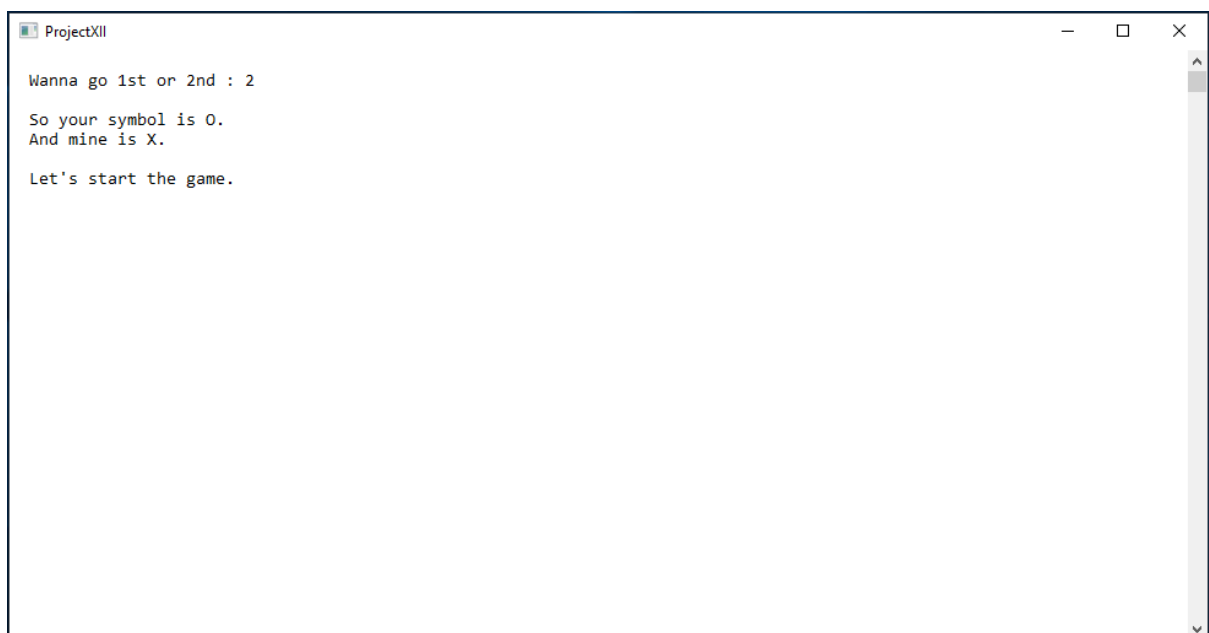
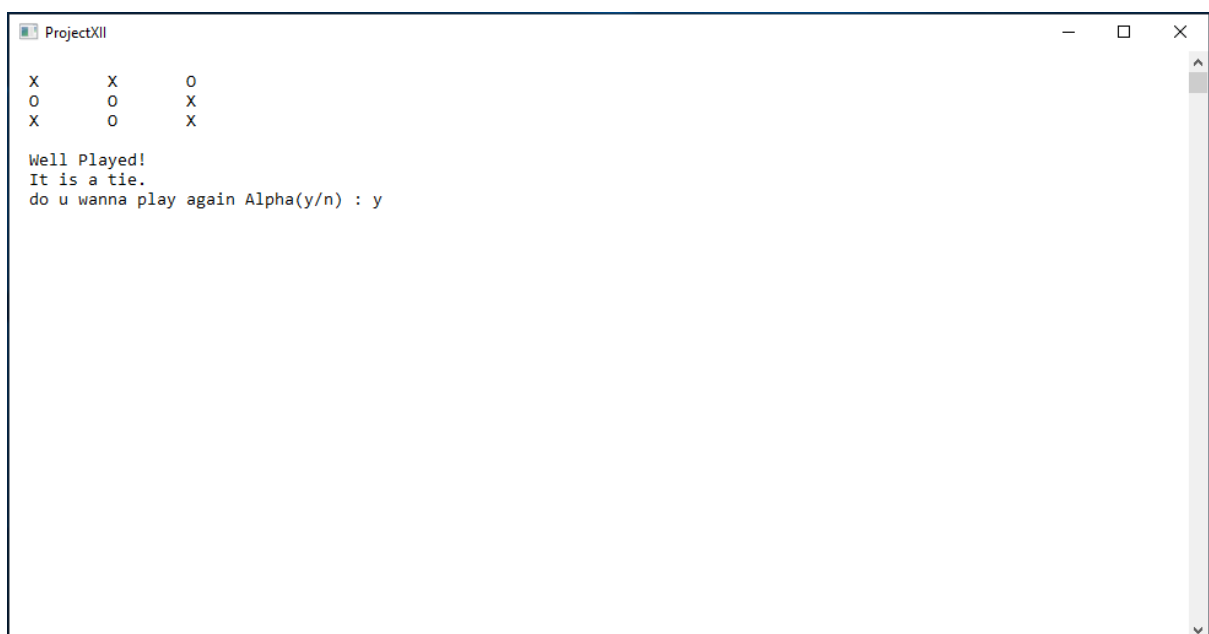
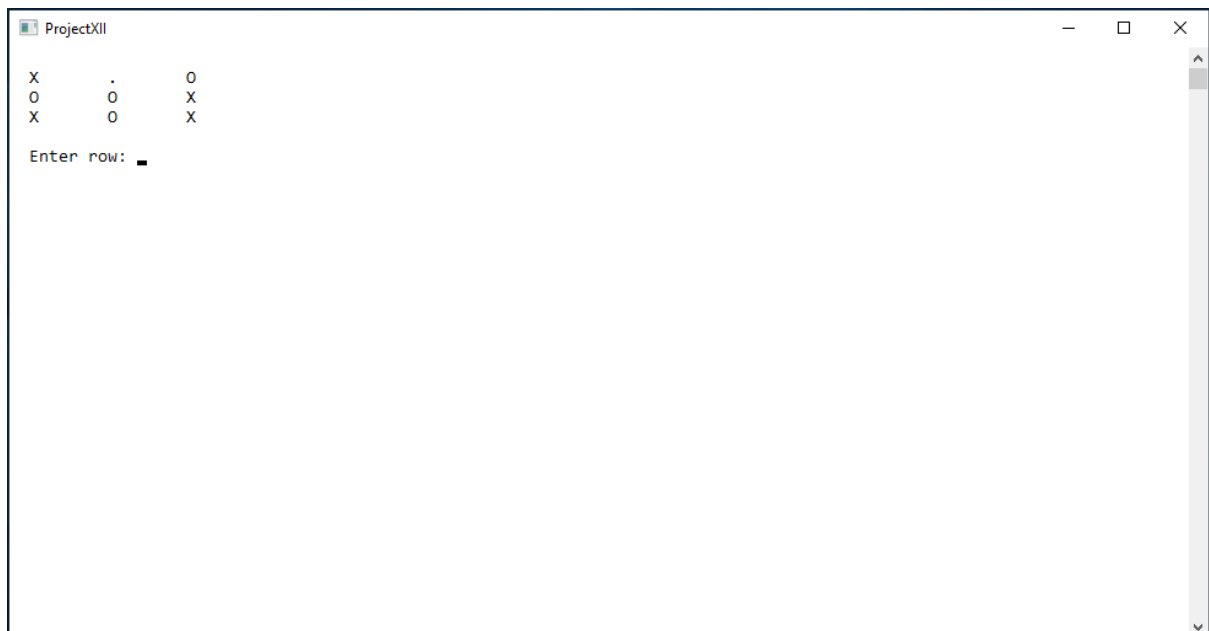
What is your good name? Alpha

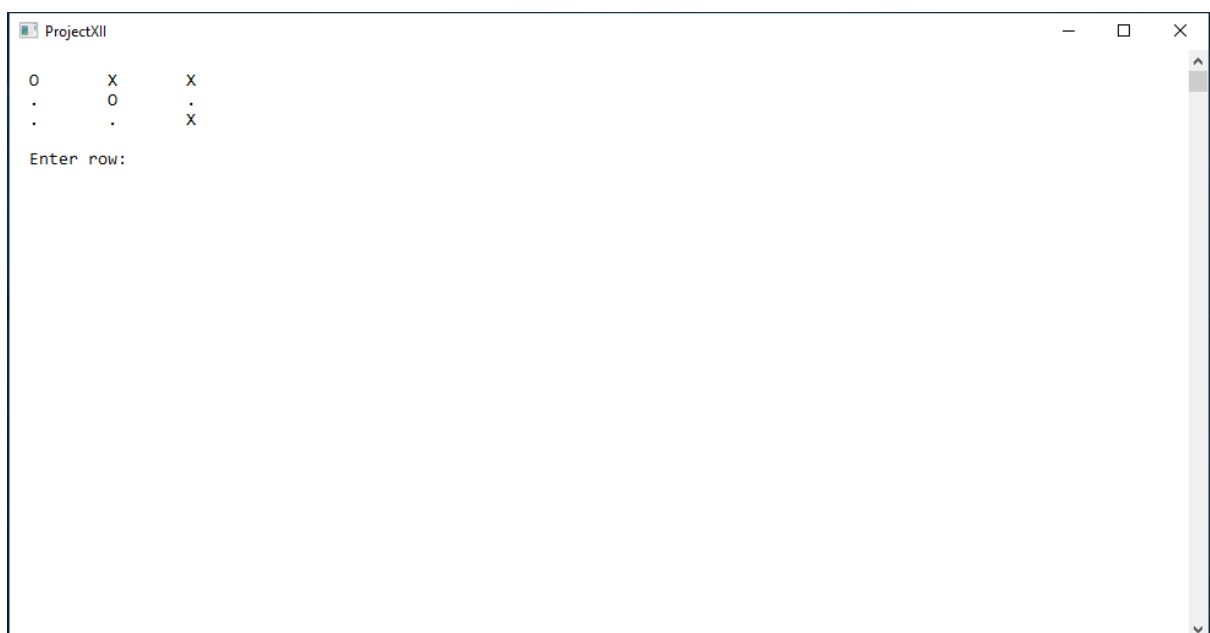
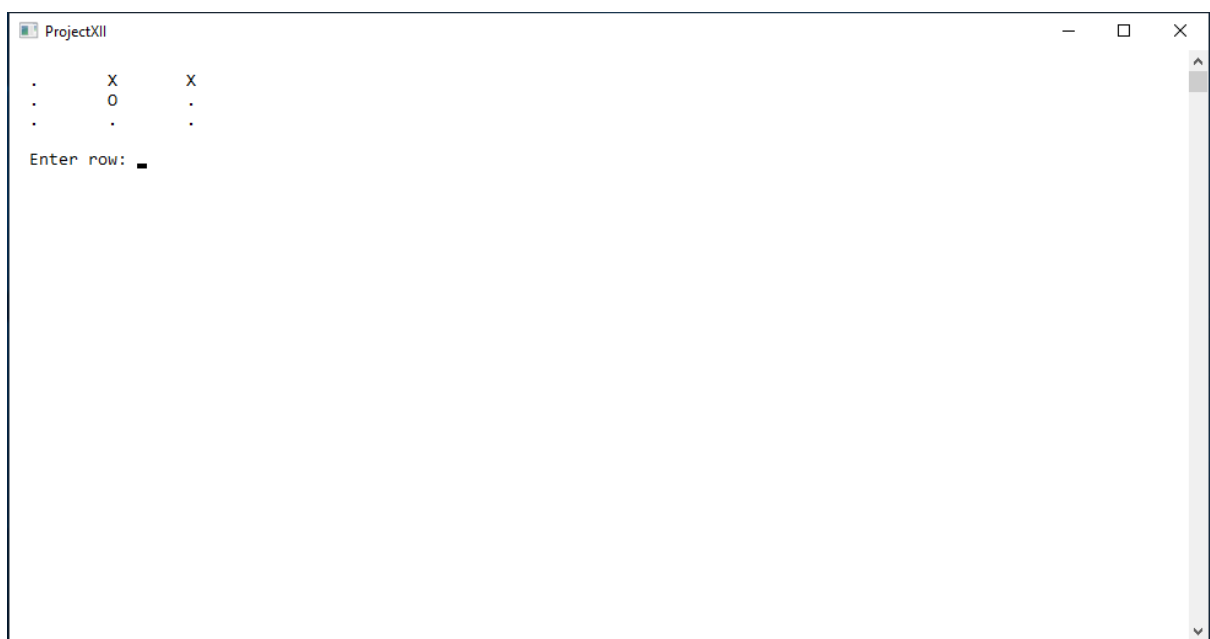
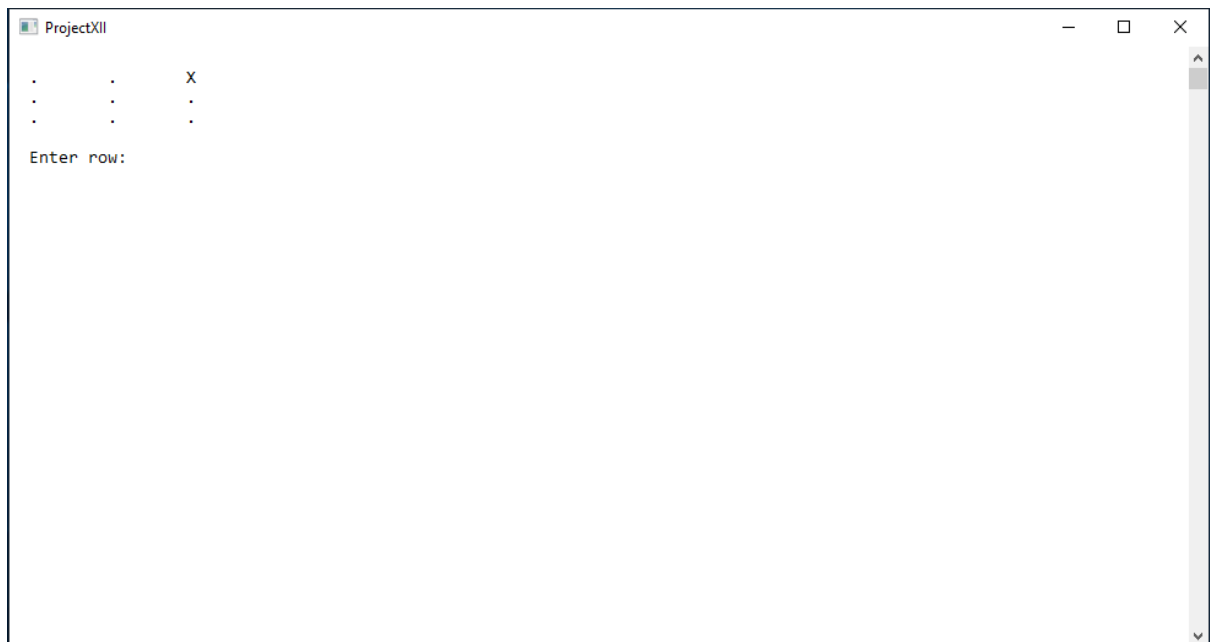
Hi Alpha wanna play tic tac toe?
Let's see who will win
Alpha wanna go 1st or 2nd? : 1

So your symbol is X.
And mine is O.

Let's start the game.
```







```
ProjectXII

0      X      X
0      O      X
.      .      X

It is impossible to beat me Alpha
do u wanna play again Alpha(y/n) : n
No of wins in this match : 0
No of lose in this match : 1
No of ties in this match : 1
```

```
ProjectXII

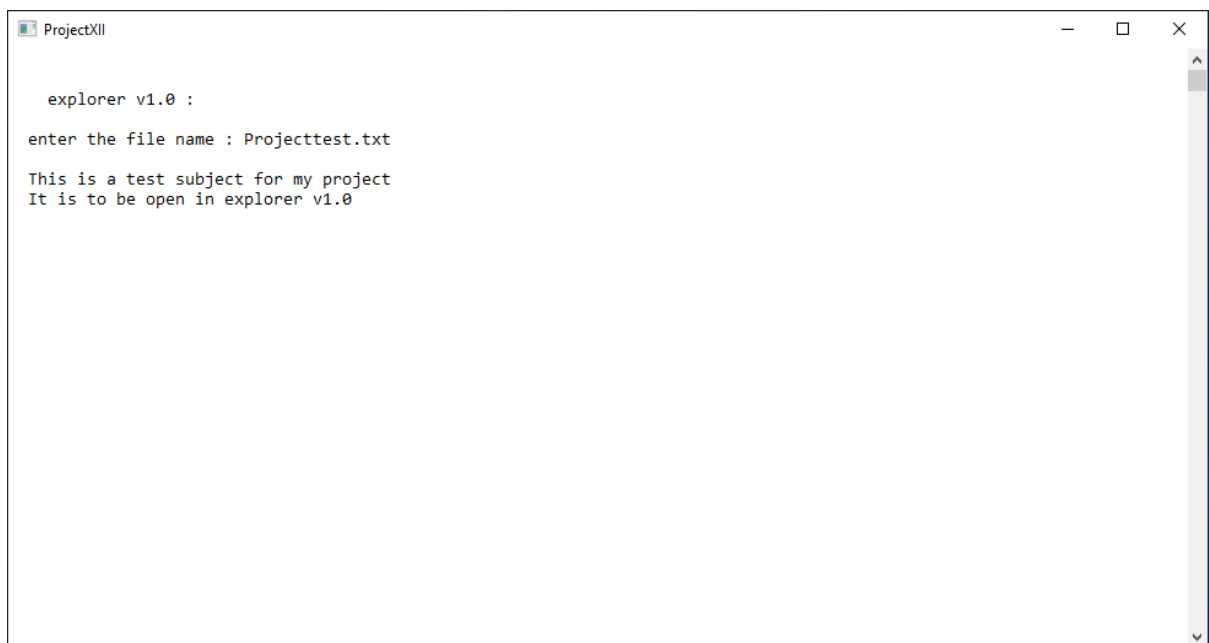
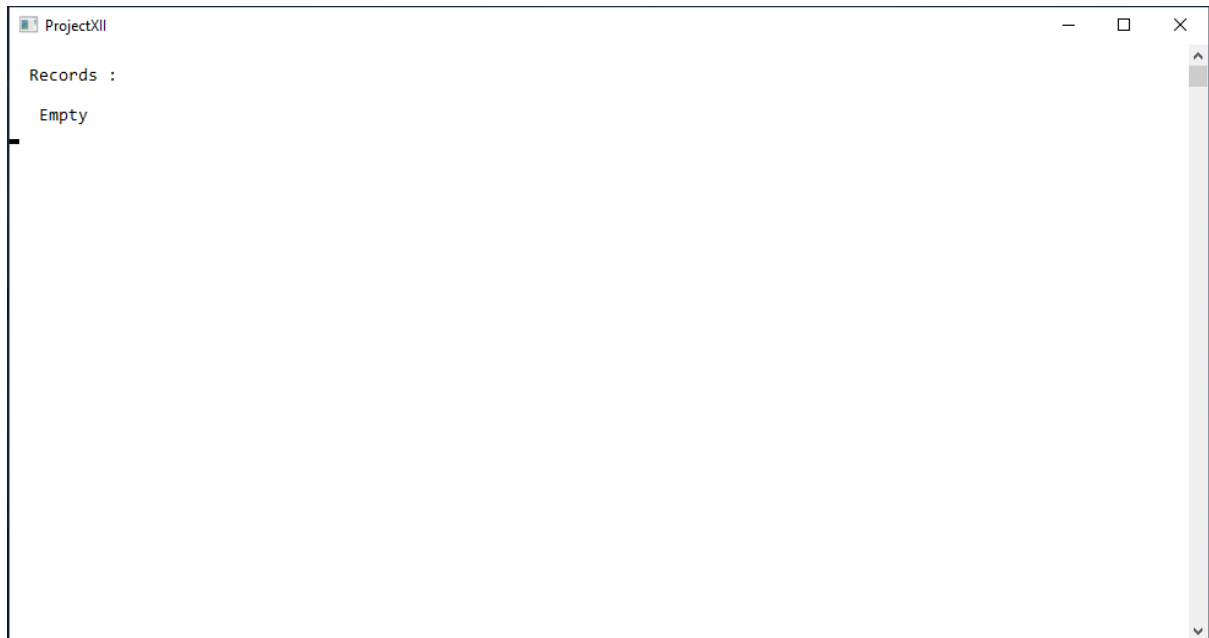
Records :

LAST USER : Alpha
NO OF TIES IN TOTAL : 1
NO OF WINS IN TOTAL : 0
NO OF LOSE IN TOTAL : 1
```

```
ProjectXII

Games :

1. Play tic tac toe
2. Show records
3. Delete records
4. Exit
Done
```




```
ProjectXIII

notepad v1.0 :                                type /exit to exit

enter the filename : testfile.txt
file doesn't exist creating new file :
I have created a new file named
testfile.txt
/exit
do you wanna write anything else(y/n) : █
```

```
ProjectXIII

explorer v1.0 :

enter the file name : testfile.txt

I have created a new file named
testfile.txt
█
```

```
ProjectXIII

notepad v1.0 :                                type /exit to exit

enter the filename : testfile1.txt
file exist do you wanna overwrite(y/n) : n

Hi i dont wanna overwrite
/exit
do you wanna write anything else(y/n) : █
```

```
ProjectXIII

explorer v1.0 :

enter the file name : testfile1.txt

Hi hoho append here

Hi i dont wanna overwrite
```

```
ProjectXIII

notepad v1.0 :                                type /exit to exit

enter the filename : testfile2.txt
file exist do you wanna overwrite(y/n) : y
I have overwitten on this file
bye bye
/exit
do you wanna write anything else(y/n) :
```

```
ProjectXIII

explorer v1.0 :

enter the file name : testfile2.txt

I have overwitten on this file
bye bye
```