

Name: Abdullah

Roll num:21F-9248

SECTION A

CODE;

```
# include <iostream>
```

```
# include <stdlib.h>
```

```
# include <ctime>
```

```
using namespace std;
```

```
int mainmenu();
```

```
int playgame();
```

```
int player_vs_player();
```

```
int player_vs_machine();
```

```
int exit();
```

```
int main()
```

```
{
```

```
    cout<<" TIC TAC TOE GAME "<<endl;
```

```
    mainmenu();
```

```
}
```

```
int mainmenu()
```

```
{
```

```
    int x;
```

```
    cout<<" 1:play game"<<endl;
```

```
    cout<<" 2:credits"<<endl;
```

```
    cout<<" 3:instructions"<<endl;
```

```
    cout<<" 4:score"<<endl;
```

```
    cout<<" 5:exit"<<endl;
```

```
    cin>>x;
```

```
    switch(x)
```

```
{
case 1:
    {
        cout<<playgame();
        break;
    }
case 2:
    {
        cout<<"credits()";
        break;
    }
case 3:
    {
        cout<<"instructions()";
        break;
    }
case 4:
    {
        cout<<"score()";
        break;
    }
case 5:
    {
        cout<<exit();
        break;
    }
default :
    {
        cout<<" invalid value \n"<<" enter again"<<endl;
```

```

        break;
    }
}
return 0;
}

int playgame()
{
    int x;
    cout<<" 1:player vs player "<<endl;
    cout<<" 2:player vs machine"<<endl;
    cin>>x;
    if(x==1)
    {
        cout<< player_vs_player();
    }
    else if(x==2)
    {
        cout<<player_vs_machine();
    }
    return 0;
}

int player_vs_player()
{
    string p1[10]={" "," "," "," "," "," "," "," "," "," "};
    string p2[10]={" "," "," "," "," "," "," "," "," "," "};
    int x1[10]={' ',' ',' ',' ',' ',' ',' ',' ',' ',' '};
    int x2[10]={' ',' ',' ',' ',' ',' ',' ',' ',' ',' '};
    int toss,x,count=0,n;
    string b;

```

```

cout<<" press 1 for toss "<<endl;

cin>>x;

if(x==1)
{
    srand((unsigned)time(0));
    toss=rand()%2+1;
    cout<<toss<<endl;
    if(toss==1)
    {
        cout<<" player 1 wins the toss "<<endl;
        cout<<endl;
        cout<<"          "<<"1"<<" "<<" 2"<<" "<<" 3"<<endl;
        cout<<"          "<<"4"<<" "<<" 5"<<" "<<" 6"<<endl;
        cout<<"          "<<"7"<<" "<<" 8"<<" "<<" 9"<<endl;
        cout<<endl;
    }
    for(int i=1;i<=5;i++)
    {
        for(int j=1;j<=1;j++)
        {
            cout<<" player 1 turn "<<endl;
            cin>>n;
            for(int s=1,y=1;s<=1000;s++)
            {
                if(p1[n]==" ")
                {
                    break;
                }
                else
                {

```

```

        cout<<" invalid value "<<endl;

        cout<<" enter again

";cin>>n;cout<<endl;

        continue;

    }

}

p1[n]="o";
system("cls");
cout<<"          "<<p1[1]<<" "<<" | "<<p1[2]<<" "<<" |
"<<p1[3]<<endl;

        cout<<"          "<<p1[4]<<" "<<" | "<<p1[5]<<" "<<" |
"<<p1[6]<<endl;

        cout<<"          "<<p1[7]<<" "<<" | "<<p1[8]<<" "<<" |
"<<p1[9]<<endl;

        cout<<endl;

if((p1[1]=="o"&& p1[2]=="o"&& p1[3]=="o") || (p1[1]=="o"&& p1[5]=="o"&& p1[9]=="o") || (p1[3]=="o"&&
p1[5]=="o"&& p1[7]=="o") || (p1[4]=="o"&& p1[5]=="o"&& p1[6]=="o") || (p1[7]=="o"&& p1[8]=="o"&& p1
[9]=="o") || (p1[1]=="o"&& p1[4]=="o"&& p1[7]=="o") || (p1[2]=="o"&& p1[5]=="o"&& p1[8]=="o") || (p1[3]
=="o"&& p1[6]=="o"&& p1[9]=="o"))

    {

        cout<<" player 1 wins "<<endl;

        cout<<" press any key to continue "<<endl;

        cin>>b;

        system("cls");

        cout<<mainmenu();

    }

    count++;

}

cout<<" player 2 turn "<<endl;

cin>>n;

```

```

for(int s=1,l=1;s<=1000;s++)
{
    if(p1[n]==" ")
    {
        break;
    }
    else
    {
        cout<<" invalid value "<<endl;
        cout<<" enter again ";cin>>x;cout<<endl;
        continue;
    }
}

p1[n]="x";
system("cls");

cout<<"          "<<p1[1]<<" | "<<" "<<p1[2]<<" "<<" |
"<<p1[3]<<endl;

cout<<"          "<<p1[4]<<" | "<<" "<<p1[5]<<" "<<" |
"<<p1[6]<<endl;

cout<<"          "<<p1[7]<<" | "<<" "<<p1[8]<<" "<<" |
"<<p1[9]<<endl;

cout<<endl;

if((p1[1]=="x"&& p1[2]=="x"&& p1[3]=="x") || (p1[1]=="x"&& p1[5]=="x"&& p1[9]=="x") || (p1[3]=="x"&& p
1[5]=="x"&& p1[7]=="x") || (p1[4]=="x"&& p1[5]=="x"&& p1[6]=="x") || (p1[7]=="x"&& p1[8]=="x"&& p1[9]
=="x") || (p1[1]=="x"&& p1[4]=="x"&& p1[7]=="x") || (p1[2]=="o"&& p1[5]=="o"&& p1[8]=="o") || (p1[3]=="
o"&& p1[6]=="o"&& p1[9]=="o"))

{
    cout<<" player 2 wins "<<endl;
    system("cls");
    cout<<mainmenu();
}

```

```

        }
        count++;
    }
}
else if(toss==2)
{
    cout<<" player 2 wins the toss "<<endl;
    cout<<endl;
    cout<<"          "<<"1"<<" "<<" 2"<<" "<<" 3"<<endl;
    cout<<"          "<<"4"<<" "<<" 5"<<" "<<" 6"<<endl;
    cout<<"          "<<"7"<<" "<<" 8"<<" "<<" 9"<<endl;
    cout<<endl;
    for(int i=1;i<=5;i++)
    {
        cout<<" player 2 turn "<<endl;
        cin>>n;
        for(int s=1,l=1;s<=1000;s++)
        {
            if(p1[n]==" ")
            {
                break;
            }
            else
            {
                cout<<" invalid value "<<endl;
                cout<<" enter again ";cin>>x;cout<<endl;
                continue;
            }
        }
    }
}

```

```

        p1[n]="x";
        system("cls");
        cout<<"          "<<p1[1]<<" | "<<" "<<p1[2]<<" "<<" |
" <<p1[3]<<endl;

        cout<<"          "<<p1[4]<<" | "<<" "<<p1[5]<<" "<<" |
" <<p1[6]<<endl;

        cout<<"          "<<p1[7]<<" | "<<" "<<p1[8]<<" "<<" |
" <<p1[9]<<endl;

        cout<<endl;

if((p1[1]=="x"&& p1[2]=="x"&& p1[3]=="x") || (p1[1]=="x"&& p1[5]=="x"&& p1[9]=="x") || (p1[3]=="x"&& p
1[5]=="x"&& p1[7]=="x") || (p1[4]=="x"&& p1[5]=="x"&& p1[6]=="x") || (p1[7]=="x"&& p1[8]=="x"&& p1[9]
=="x") || (p1[1]=="x"&& p1[4]=="x"&& p1[7]=="x") || (p1[2]=="o"&& p1[5]=="o"&& p1[8]=="o") || (p1[3]=="
o"&& p1[6]=="o"&& p1[9]=="o"))
{
        cout<<" player 2 wins "<<endl;
        cout<<" press any key to continue "<<endl;
        cin>>b;
        system("cls");
        cout<<mainmenu();
}
        count++;
for(int j=1;j<=1;j++)
{
        cout<<" player 1 turn "<<endl;
        cin>>n;
        for(int s=1,y=1;s<=1000;s++)
        {
                if(p1[n]==" ")
                {
                        break;

```



```

    }
    else
    {
        cout<<" invalid value "<<endl;
        cout<<" enter again

";cin>>n;cout<<endl;

        continue;
    }
}
p1[n]="o";
system("cls");
cout<<"          "<<p1[1]<<" "<<" | "<<p1[2]<<" "<<" |
"<<p1[3]<<endl;

cout<<"          "<<p1[4]<<" "<<" | "<<p1[5]<<" "<<" |
"<<p1[6]<<endl;

cout<<"          "<<p1[7]<<" "<<" | "<<p1[8]<<" "<<" |
"<<p1[9]<<endl;

cout<<endl;

if((p1[1]=="o"&& p1[2]=="o"&& p1[3]=="o") || (p1[1]=="o"&& p1[5]=="o"&& p1[9]=="o") || (p1[3]=="o"&&
p1[5]=="o"&& p1[7]=="o") || (p1[4]=="o"&& p1[5]=="o"&& p1[6]=="o") || (p1[7]=="o"&& p1[8]=="o"&& p1
[9]=="o") || (p1[1]=="o"&& p1[4]=="o"&& p1[7]=="o") || (p1[2]=="o"&& p1[5]=="o"&& p1[8]=="o") || (p1[3]
=="o"&& p1[6]=="o"&& p1[9]=="o"))

{
    cout<<" player 1 wins "<<endl;
    cout<<" press any key to continue "<<endl;
    cin>>b;
    system("cls");
    cout<<mainmenu();
}
count++;

```

```
        }

    }

}

    return 0;

}

}

int player_vs_machine()
{

    cout<<" hello "<<endl;

    return 0;

}

int exit()
{

    cout<<" thanks for playing "<<endl;

    return 0;

}
```