```
#include<bits/stdc++.h>

using namespace std;

char val[3][3]={{'1','2','3'},{'4','5','6'},{'7','8','9'}};
int choice;
int row,col;
char turn='X';
bool draw=false;

//This function is used to display board
void board()
{
      system("cls");
      cout<<"\n\n\t \t      Tic Tac Toe Game\n"<<endl;
      cout<<"\n\t \t Player1-->[X] \t Player2-->[O]\n\n\n";
      cout<<"\t \t        |        |        \n";
      cout<<"\t \t    "<<val[0][0]<<"   |   "<<val[0][1]<<"    |
"<<val[0][2]<<"     \n";
      cout<<"\t \t        |        |        \n";
      cout<<"\t \t-------------------------\n";
      cout<<"\t \t        |        |        \n";
      cout<<"\t \t    "<<val[1][0]<<"   |   "<<val[1][1]<<"    |
"<<val[1][2]<<"     \n";
      cout<<"\t \t        |        |        \n";
      cout<<"\t \t-------------------------\n";
      cout<<"\t \t        |        |        \n";
      cout<<"\t \t    "<<val[2][0]<<"   |   "<<val[2][1]<<"    |
"<<val[2][2]<<"     \n";
      cout<<"\t \t        |        |        \n";



}
// This function is used for taking different players input and for
updating the board

void player_turn()
{
      int choice;
      if(turn=='X')
      {
            cout<<"\n\nPlayer [X]'s turn"<<endl;
            cout<<"Enter your choice =";
            cin>>choice;
            cout<<endl;
      }
      if(turn=='O')
      {
            cout<<"\n\nPlayer [O]'s turn"<<endl;
            cout<<"Enter your choice =";
            cin>>choice;
            cout<<endl;

      }

      switch(choice)
      {
            case 1: row=0;col=0; break;
            case 2: row=0;col=1;break;
```

```
            case 3: row=0;col=2;break;
            case 4: row=1;col=0; break;
            case 5: row=1;col=1;break;
            case 6: row=1;col=2;break;
            case 7: row=2;col=0;break;
            case 8: row=2;col=1;break;
            case 9: row=2;col=2;break;
            default: cout<<"Invalid Choice"<<endl;break;
      }
      if (turn == 'X' && val[row][col] != 'X' && val[row][col] != 'O')
      {

        val[row][col] = 'X';
        turn = 'O';
    }
    else if (turn == 'O' && val[row][col] != 'X' && val[row][col] != 'O')
      {
            val[row][col] = 'O';
        turn = 'X';
    }
    else
      {
        cout << "BOX ALREADY FILLED...!!\n PLEASE TRY AGAIN" << endl;
            player_turn();
    }
    board();
}

//Function used to get result and winner

bool result()
{
      for(int i=0;i<3;i++)
      {
            if(val[i][0] == val[i][1] && val[i][0] == val[i][2] ||
val[0][i] == val[1][i] && val[0][i] == val[2][i])
            {
                  return false;
            }

            if(val[0][0] == val[1][1] && val[0][0] == val[2][2] ||
val[0][2] == val[1][1] && val[0][2] == val[2][0])
            {
                  return false;
            }

      }

      //for continue playing

      for(int i=0;i<3;i++)
      {
            for(int j=0;j<3;j++)
            {
                  if(val[i][j]!= 'X' && val[i][j]!='O')
                  {
                        return true;
                  }
            }
      }
```

```
      //draw scenario
      draw=true;
      return false;
}




int main(){
       while(result())
     {
            board();

            player_turn();
            result();
    }
    if(turn=='X' && draw == false)
    {
      cout<<"\n\nPlayer [O] is Winner !!!"<<endl;
      }
      else if(turn =='O' && draw == false)
      {
            cout<<"\n\nPlayer [X] is Winner !!!"<<endl;
      }
      else
      {
            cout<<"\n\nThe GAME is drawn !!!"<<endl;
      }

}
```