

```
#include <stdio.h>
#include <conio.h>
#include <windows.h>
#include <stdlib.h>
#include <ctype.h> //built-in functions that are useful for testing and mapping characters
```

```
char square[10] = {'o','1','2','3','4','5','6','7','8','9'};
```

```
int checkWin();
```

```
void drawBoard();
```

```
int main()
```

```
{
```

```
    int player = 1,i,choice;
```

```
    char mark; // X, O
```

```
    char response;
```

```
    do
```

```
    {
```

```
        do
```

```
        {
```

```
            drawBoard();
```

```
            player = (player % 2) ? 1 : 2;
```

```
            printf("Player %d, enter the choice: ",player);
```

```
            scanf("%d",&choice);
```

```
            mark = (player == 1) ? 'X' : 'O';
```

```
            if(choice == 1 && square[1] == '1')
```

```
                square[1] = mark;
```

```
            else if(choice == 2 && square[2] == '2')
```

```
                square[2] = mark;
```

```

else if(choice == 3 && square[3] == '3')
    square[3] = mark;
else if(choice == 4 && square[4] == '4')
    square[4] = mark;
else if(choice == 5 && square[5] == '5')
    square[5] = mark;
else if(choice == 6 && square[6] == '6')
    square[6] = mark;
else if(choice == 7 && square[7] == '7')
    square[7] = mark;
else if(choice == 8 && square[8] == '8')
    square[8] = mark;
else if(choice == 9 && square[9] == '9')
    square[9] = mark;
else
{
    printf("Invalid Option !");
    player --;
    getch();
}
i = checkWin();
player++;
}while(i == -1);
drawBoard();
if(i==1)
{
    printf("\n\n==>PLAYER %d WON!!!",--player);
}

```

```

else
{
    printf("\n\n==>GAME DRAW!!");
}

printf("\nWould you like to play again? (Y/N): ");
scanf("%c");
scanf("%c",&response);
response = toupper(response);

}while(response == 'Y');
printf("Thanks for Playing!");

getch();
return 0;
}

int checkWin()
{
    //Rows
    if(square[1] == square[2] && square[2] == square[3])
        return 1;
    else if(square[4] == square[5] && square[5] == square[6])
        return 1;
    else if(square[7] == square[8] && square[8] == square[9])
        return 1;

    //Columns
    else if(square[1] == square[4] && square[4] == square[7])
        return 1;

```

```

else if(square[2] == square[5] && square[5] == square[8])
    return 1;
else if(square[3] == square[6] && square[6] == square[9])
    return 1;
//Diagonals
else if(square[1] == square[5] && square[5] == square[9])
    return 1;
else if(square[3] == square[5] && square[5] == square[7])
    return 1;
else if(square[1] != '1' && square[2] != '2' && square[3] != '3' && square[4] != '4' &&
square[5] != '5' && square[6] != '6' && square[7] != '7' && square[8] != '8' && square[9] != '9')
    return 0;
else
    return -1;
}

```

```

void drawBoard()

```

```

{
    system("cls");
    printf("\n\n\t Tic Tac Toe \n\n");
    printf("Player1 (X) - Player2 (O)\n\n\n");
    printf("  |  |  \n");
    printf(" %c | %c | %c \n",square[1],square[2],square[3]);
    printf("____|____|____\n");
    printf("  |  |  \n");
    printf(" %c | %c | %c \n",square[4],square[5],square[6]);
    printf("____|____|____\n");
    printf("  |  |  \n");
}

```

```
printf("  %c | %c | %c \n",square[7],square[8],square[9]);  
printf("    |    |    \n");
```

```
}
```