

## **TICTACTOE game:-design a program that allows two players to play the classic game of tic tac toe**

```
#include <stdio.h>
```

```
char box[10]={'0','1','2','3','4','5','6','7','8','9'};
```

```
void Board_creating();
```

```
void Board_marking(int, char);           //function prototyping
```

```
int Check_win();
```

```
int main()
```

```
{
```

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

```
    char mark;
```

```
    do{
```

```
        Board_creating();           //function call
```

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

```
        printf("Player %d, enter a number: ", player);
```

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

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

```
        Board_marking(choice, mark);
```

```
        i=Check_win();
```

```
        player++;
```

```
    }while(i == -1);
```

```
Board_creating(); //function call
```

```
if(i==1)
    printf("Player %d Won the game",--player);
else
    printf("<-----Match Tie----->");
```

```
    return 0;
}
void Board_creating() //function defination
```

```
{
    printf("\n\nTic Tac Toe\n\n");
    printf("Player 1 (X) -- Player 2 (O)\n\n");

    printf("%c | %c | %c \n",box[1],box[2],box[3]);

    printf("-----|-----|-----\n");
    printf("%c | %c | %c \n",box[4],box[5],box[6]);

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

```
}
void Board_marking(int choice, char mark) //function defination
{
    if(choice==1 && box[1]!='1')
        box[1]=mark;
```

```
    elseif(choice==2&&box[2]=='2')
        box[2]=mark;
    elseif(choice==3&&box[3]=='3')
        box[3]=mark;
    elseif(choice==4&&box[4]=='4')
        box[4]=mark;
    elseif (choice==5 &&box[5]=='5')
        box[5]=mark;
    elseif (choice==6 &&box[6]=='6')
        box[6]=mark;
    elseif (choice==7 &&box[7]=='7')
        box[7]=mark;
    elseif (choice==8 &&box[8]=='8')
        box[8]=mark;
    elseif (choice==9 &&box[9]=='9')
        box[9]=mark;
    else
    {
        printf("Invalidmove");
    }
}

int Check_win()                //function defination
{
    if(box[1]==box[2] && box[2]==box[3])
        return 1;
    elseif(box[4]==box[5] && box[5]==box[6])
        return 1;                // horizontal match
    elseif (box[7]==box[8] && box[8]==box[9])
```

```
        return 1;

    elseif(box[1]==box[4] && box[4]==box[7])
        return 1;
    elseif(box[2]==box[5] && box[5]==box[8])        //vertical match
        return 1;
    elseif(box[3]==box[6] && box[6]==box[9])
        return 1;

    elseif(box[1]==box[5] && box[5]==box[9])
        return 1;
    elseif(box[3]==box[5] && box[5]==box[7])        //diagonal match
        return 1;

    elseif(box[1]!='1' && box[2]!='2' && box[3]!='3' && box[4]!='4' && box[5]!='5' && box[6]!='6' &&
    box[7]!='7' && box[8]!='8' && box[9]!='9') //no match
        return 0;

    else
        return -1;
}
```