

C & DATA STRUCTURES

MINI PROJCT

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Done by Sri Ramya

- Sir, I used **Online GDB Website** to do the project.
- The source code is return in **C** Language.

PROJECT SOURCE CODE

```
1  #include <stdio.h>
2  #include <conio.h>
3
4  char square[10] = { 'o', '1', '2', '3', '4', '5', '6', '7', '8', '9' };
5
6  int checkwin();
7  void board();
8
9  int main()
10 {
11     int player = 1, i, choice;
12
13     char mark;
14     do
15     {
16         board();
17         player = (player % 2) ? 1 : 2;
18
19         printf("Player %d, enter a number: ", player);
20         scanf("%d", &choice);
21
22         mark = (player == 1) ? 'X' : 'O';
23
24         if (choice == 1 && square[1] == '1')
25             square[1] = mark;
26
27         else if (choice == 2 && square[2] == '2')
28             square[2] = mark;
29
30         else if (choice == 3 && square[3] == '3')
```

```
30     else if (choice == 3 && square[3] == '3')
31         square[3] = mark;
32
33     else if (choice == 4 && square[4] == '4')
34         square[4] = mark;
35
36     else if (choice == 5 && square[5] == '5')
37         square[5] = mark;
38
39     else if (choice == 6 && square[6] == '6')
40         square[6] = mark;
41
42     else if (choice == 7 && square[7] == '7')
43         square[7] = mark;
44
45     else if (choice == 8 && square[8] == '8')
46         square[8] = mark;
47
48     else if (choice == 9 && square[9] == '9')
49         square[9] = mark;
50
51     else
52     {
53         printf("Invalid move ");
54
55         player--;
56         getch();
57     }
58     i = checkwin();
59
```

```

58         i = checkwin();
59
60         player++;
61     }while (i == - 1);
62
63     board();
64
65     if (i == 1)
66         printf("==>\aPlayer %d win ", --player);
67     else
68         printf("==>\aGame draw");
69
70     getch();
71
72     return 0;
73 }
74
75 /*****
76
77  FUNCTION TO RETURN GAME STATUS
78  1 FOR GAME IS OVER WITH RESULT
79  -1 FOR GAME IS IN PROGRESS
80  0 GAME IS OVER AND NO RESULT
81  *****/
82
83 int checkwin()
84 {
85     if (square[1] == square[2] && square[2] == square[3])
86         return 1;
87

```



Run

Debug

Stop

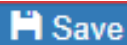
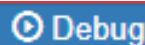
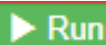
Share

Save

{ } Beautify



```
88     else if (square[4] == square[5] && square[5] == square[6])
89         return 1;
90
91     else if (square[7] == square[8] && square[8] == square[9])
92         return 1;
93
94     else if (square[1] == square[4] && square[4] == square[7])
95         return 1;
96
97     else if (square[2] == square[5] && square[5] == square[8])
98         return 1;
99
100    else if (square[3] == square[6] && square[6] == square[9])
101        return 1;
102
103    else if (square[1] == square[5] && square[5] == square[9])
104        return 1;
105
106    else if (square[3] == square[5] && square[5] == square[7])
107        return 1;
108
109    else if (square[1] != '1' && square[2] != '2' && square[3] != '3' &&
110            square[4] != '4' && square[5] != '5' && square[6] != '6' && square[7]
111            != '7' && square[8] != '8' && square[9] != '9')
112
113        return 0;
114    else
115        return - 1;
116 }
117
```




```
119 /*****
120 FUNCTION TO DRAW BOARD OF TIC TAC TOE WITH PLAYERS MARK
121 *****/
122
123
124 void board()
125 {
126
127     printf("\n\n\tTic Tac Toe\n\n");
128
129     printf("Player 1 (X)  -  Player 2 (O)\n\n\n");
130
131
132     printf("      |      |      \n");
133     printf("   %c  |   %c  |   %c \n", square[1], square[2], square[3]);
134
135     printf("_____|_____|_____\n");
136     printf("      |      |      \n");
137
138     printf("   %c  |   %c  |   %c \n", square[4], square[5], square[6]);
139
140     printf("_____|_____|_____\n");
141     printf("      |      |      \n");
142
143     printf("   %c  |   %c  |   %c \n", square[7], square[8], square[9]);
144
145     printf("      |      |      \n\n");
146 }
147
```

```
146 }
147
148 /*****
149  END OF PROJECT
150  *****/
151
```

Source code of the Project Completed

Now We Click On RUN Button

- It gives the Following:



The screenshot shows a code editor with a dark theme. The top toolbar includes buttons for Run (green), Debug (blue), Stop (red), Share (orange), Save (blue), Beautify (light blue), and a download icon. Below the toolbar, the code is displayed in a monospaced font. The code defines a Tic Tac Toe game with a 3x3 grid. The grid is currently empty, with positions numbered 1 through 9. The prompt 'Player 1, enter a number:' is followed by an input field.

```

Tic Tac Toe

Player 1 (X) - Player 2 (O)

 1 | 2 | 3
---|---|---
 4 | 5 | 6
---|---|---
 7 | 8 | 9
  |  | 

Player 1, enter a number: 
```

- Now we enter a number to place an “X” by the Player 1.
- I entered number 1. So X will be entered in the place.

```
Player 1, enter a number: 1

      Tic Tac Toe

Player 1 (X)  -  Player 2 (O)

  X   |   2   |   3
  ----|----|----
  4   |   5   |   6
  ----|----|----
  7   |   8   |   9
  ----|----|----
      |       |

Player 2, enter a number: 
```

- Now, we enter the number to place “O” by the Player 2. I entered a 2 number so Player 2 (O) will be placed.

```
Player 2, enter a number: 2
```

```
Tic Tac Toe
```

```
Player 1 (X) - Player 2 (O)
```

X		O	

4		5	

7		8	

```
Player 1, enter a number: 
```

- Now we will continue the steps And let us see which Player will WIN.

Player 1, enter a number: 5

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X		O		3
<hr/>				
4		X		6
<hr/>				
7		8		9
<hr/>				

Player 2, enter a number:

Player 2, enter a number: 9

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X		O		3
<hr/>				
4		X		6
<hr/>				
7		8		O
<hr/>				

Player 1, enter a number:

Player 1, enter a number: 3

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X		O	
<hr/>			
4		X	
<hr/>			
7		8	

Player 2, enter a number:

Player 2, enter a number: 4

Tic Tac Toe

Player 1 (X) - Player 2 (O)

X		O	
<hr/>			
O		X	
<hr/>			
7		8	

Player 1, enter a number:

RESULT: Player1 is the WINNER

```
Player 1, enter a number: 7
```

```
Tic Tac Toe
```

```
Player 1 (X) - Player 2 (O)
```

X		O		X
<hr/>				
O		X		6
<hr/>				
X		8		O
<hr/>				

```
=>Player 1 win
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console. 
```

**THE MINI – PROJECT IS
COMPLETED.**

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