

# **TIC-TAC-TOE**

**21CSS101J – PROGRAMMING FOR PROBLEM SOLVING**

**Mini Project Report**

*Submitted by*

**Name: K. B. Yaswanth**

**RA: RA2211003011104**

**D2 SEC**

**Name: T. Sanskar**

**RA: RA2211003011130**

**D2 SEC**



**SCHOOL OF COMPUTING  
COLLEGE OF ENGINEERING AND TECHNOLOGY  
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(Under Section 3 of UGC Act, 1956)**

**S.R.M. NAGAR, KATTANKULATHUR – 603 203**

**KANCHEEPURAM DISTRICT**

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## STATEMENT AND PROCEDURE

1. TIC-TAC-TOE game using c program
2. We will be taking all the inputs from the user
3. we will be using printf statements to take the inputs
4. We will be using if else statements also in the program
5. By our code a random board will be created already with numbers from 1 to 9
6. Then the two players need to give the number where they want to give the input
7. Based on the input it tells valid or not
8. Then corresponding symbols will be filled in board
9. There are three possibilities after the 9 inputs
  - 1 FOR GAME IS OVER WITH RESULT
  - 1 FOR GAME IS IN PROGRESS
  - 0 GAME IS OVER AND NO RESULT
10. Our code successfully runs and result will be known

# CODE

```
#include

#include

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

int checkwin();
void board();

int main()
{
    int player = 1, i, choice;

    char mark;
    do
    {
        board();
        player = (player % 2) ? 1 : 2;

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

            player--;
            getch();
        }
        i = checkwin();

        player++;
    } while (i == -1);

    board();

    if (i == 1)
        printf("=>\aPlayer %d win ", -player);
    else
        printf("=>\aGame draw");

    getch();

    return 0;
}
```

```

int checkwin()
{
    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;

    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;

    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 board()
{
    printf("\n\n\tTic Tac Toe\n\n");

    printf("Player 1 (X) - Player 2 (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\n");
}

```

RESLUT :

```

T i c   T a c   T o e
Player 1's Symbol : X
Player 2's Symbol : 0

  X | 0 | X
---|---|---
  X | 0 | 0
---|---|---
  0 | X | X

the Game is DRAW

if You want to play again the press 1:
else any:
```

## CONCLUSION:

Hence TIC-TAC-TOE code is written and executed successfully with a result.