

PROGRAMMING FUNDAMENTALS

SEMESTER PROJECT

TIC TAC TOE

PREPARED BY:

Amna Pervaz

Zainab Saleem

Tehreem Ejaz

InsaSaleem

MehmoonaAbid

PREPARED FOR:

Sir Adeel Khalid

SOURCE CODE

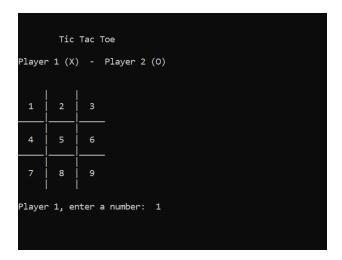
```
#include <stdio.h>
#include<stdlib.h>
#include<process.h>
char square[10] = { '0', '1', '2', '3', '4', '5', '6', '7', '8', '9' };
int checkwin();
void board();
int main()
{
  int player = 1, i, choice;
  char mark;
  do
  {
    board();
    if (player % 2 == 1)
       player = 1;
    else
       player = 2;
    if (player == 1)
       mark = 'X';
    else
       mark = 'O';
    printf("Player %d, enter a number: ", player);
     scanf_s("%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--;
    getchar();
    getchar();
  }
 i = checkwin();
  player++;
} while (i == -1);
board();
if (i == 1)
```

```
printf("==>Player %d wins\n", --player);
  else
    printf("==>Game draw\n");
  getchar();
  getchar();
  return 0;
}
  FUNCTION TO RETURN GAME STATUS
  1 FOR GAME IS OVER WITH RESULT
  -1 FOR GAME IS IN PROGRESS
  O GAME IS OVER AND NO RESULT
*****/
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;
}
  FUNCTION TO DRAW BOARD OF TIC TAC TOE WITH PLAYERS MARK
******/
void board()
{
  system("clear"); // For Linux, use "clear"; for Windows, use "cls"
  printf("\n\n\tTic Tac Toe\n\n");
  printf("Player 1 (X) - Player 2 (O)\n\);
  printf("\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");
}
```

Console Output:



As the user enters 1, the mark will be placed at 1st position. And then it asks the 2nd player to take their turn.

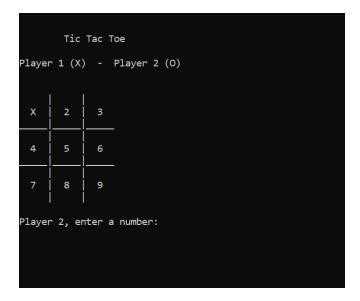


Figure here the player 1 wins.

Figure here the player 2 wins.

Figure Here the game is draw