Name:- Naresh  Suthar

SRN No.:-202202174

Roll No.:-67

Batch:-G(G3)

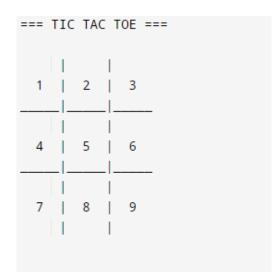# Q. Tic-Tac-Toe Game Using C Programming.

```c
#include <stdio.h>

// #include <conio.h>


void printBoard();

int checkWin();

void system();


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


void main(){

    int player=1,input,status=-1;

    printBoard();



    while (status==-1)1

    {

        player=(player%2==0) ? 2 : 1;

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

        printf("Please enter Number For Player %d\n",player);

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

```c
        if(input<1 || input>9){
            printf("invalid input");
        }


        board[input]=mark;

        printBoard();


        int result=checkWin();


        if(result==1){
            printf("Player %d is the Winner",player);
            return;
        }else if(result==0){
            printf("draw");
            return;
        }


        player++;
    }


}

void printBoard(){
    system("cls");
    printf("\n\n");
    printf("=== TIC TAC TOE ===\n\n");
```

```c
    printf("   |   |   \n");

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

    printf("_____|_____|_____\n");

    printf("   |   |   \n");

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

    printf("_____|_____|_____\n");

    printf("   |   |   \n");

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

    printf("   |   |   \n");

    printf("\n\n");

}



int checkWin(){


    if(board[1]==board[2] && board[2]==board[3]){

        return 1;

    }

    if(board[1]==board[4] && board[4]==board[7]){

        return 1;

    }

    if(board[7]==board[8] && board[8]==board[9]){

        return 1;

    }

    if(board[3]==board[6] && board[6]==board[9]){

        return 1;

    }
```

```
   if(board[1]==board[5] && board[5]==board[9]){

      return 1;

   }

   if(board[3]==board[5] && board[5]==board[7]){

      return 1;

   }

   if(board[2]==board[5] && board[5]==board[8]){

      return 1;

   }

   if(board[4]==board[5] && board[5]==board[6]){

      return 1;

   }


   int count=0;

   for (int i = 1; i <=9; i++)

   {

      if(board[i]=='X' || board[i]=='O'){

         count++;

      }

   }


   if(count==9){

      return 0;

   }

   return -1;

}
```
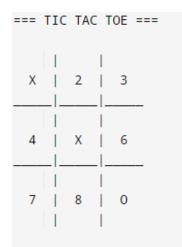
OUTPUT:-

```
=== TIC TAC TOE ===

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


Please enter Number For Player 1
1
```

```
=== TIC TAC TOE ===

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


Please enter Number For Player 2
9
```

```
=== TIC TAC TOE ===

     |     |
  X  |  2  |  3
_____|_____|_____
     |     |
  4  |  5  |  6
_____|_____|_____
     |     |
  7  |  8  |  0
     |     |


Please enter Number For Player 1
5
```

```
=== TIC TAC TOE ===

   |     |
 X | 2 | 3
___|___|___
   |     |
 4 | X | 6
___|___|___
   |     |
 7 | 8 | 0
   |     |

Please enter Number For Player 2
6
```

```
=== TIC TAC TOE ===

   |     |
 X | 2 | 3
___|___|___
   |     |
 4 | X | 0
___|___|___
   |     |
 7 | 8 | 0
   |     |

Please enter Number For Player 1
3
```

```
=== TIC TAC TOE ===

   |     |
 X | 2 | X
___|___|___
   |     |
 4 | X | 0
___|___|___
   |     |
 7 | 8 | 0
   |     |

Please enter Number For Player 2
2
```

```
=== TIC TAC TOE ===


   |     |
 X | O | X
___|___|___
   |     |
 4 | X | O
___|___|___
   |     |
 7 | 8 | O
   |     |


Please enter Number For Player 1
7
```

```
=== TIC TAC TOE ===


   |     |
 X | O | X
___|___|___
   |     |
 4 | X | O
___|___|___
   |     |
 X | 8 | O
   |     |


Player 1 is the Winner
```