Tic-Tac-Toe Game

By :-

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Statement - **To create a text-based game of Tic-Tac-Toe which should be turn based.**

Program -

```c
#include <stdio.h>

#include <conio.h>


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;
```

```c
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;
```

```c
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();
}
```

```c
        i = checkwin();

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

    board();

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

    getch();

    return 0;
}


/Function to return game status
1 for game is over, -1 is over with result, 0 is game over with no result/
```

```c
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;
```

```c
    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 for player's mark/

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


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

```c
    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");
}
```

Output -

```
        Tic Tac Toe

Player 1 (X)   -   Player 2 (O)


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

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

```
Player 1, enter a number:   6


        Tic Tac Toe

Player 1 (X)   -   Player 2 (O)


       |      |
   1   |  2   |  3
_____|_____|_____
       |      |
   4   |  5   |  X
_____|_____|_____
       |      |
   7   |  8   |  9
       |      |
Player 2, enter a number:  []
```

```
          Tic Tac Toe

Player 1 (X)  -  Player 2 (O)


      |     |
   O  |  X  |  O
 _____|_____|_____
      |     |
   X  |  5  |  X
 _____|_____|_____
      |     |
   7  |  8  |  O
      |     |
```

```
          Tic Tac Toe

Player 1 (X)  -  Player 2 (O)


      |     |
   X  |  2  |  O
 _____|_____|_____
      |     |
   X  |  O  |  6
 _____|_____|_____
      |     |
   X  |  O  |  X
      |     |

==>Player 1 win

...Program finished with exit code 0
Press ENTER to exit console.
```

Result - **The above code was successfully execute to create a turn based Tic-Tac-Toe game.**