

ASSIGNMENT-6

TIC-TAC-TOE GAME

```
#include <stdio.h>
```

```
#include <string.h>
```

```
void printboard();
```

```
int checkwin();
```

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

```
int main() {
```

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

```
    status = -1;
```

```
    printboard();
```

```
    while (status == -1) {
```

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

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

```
        printf("Player %d's turn: ", player);
```

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

```
        if (input < 1 || input > 9 || board[input] == 'X' || board[input] == 'O') {
```

```
            printf("Invalid input. Please try again.\n");
```

```
            continue;
```

```
        }
```

```
board[input] = mark;

printboard();

status = checkwin();

if (status == 1) {
    printf("Player %d wins!\n", player);
} else if (status == 0) {
    printf("It's a draw!\n");
}

player++;
}

return 0;
}

void printboard() {
    printf("-- Tic Tac Toe --\n");
    printf("%c | %c | %c\n", board[1], board[2], board[3]);
    printf("_|_|_\n");
    printf("%c | %c | %c\n", board[4], board[5], board[6]);
    printf("_|_|_\n");
    printf("%c | %c | %c\n", board[7], board[8], board[9]);
    printf(" | | \n");
}
```

```

int checkwin() {
    if (board[1] == board[2] && board[2] == board[3]) return 1;
    if (board[4] == board[5] && board[5] == board[6]) return 1;
    if (board[7] == board[8] && board[8] == board[9]) return 1;
    if (board[1] == board[4] && board[4] == board[7]) return 1;
    if (board[2] == board[5] && board[5] == board[8]) 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;

    // Check for a draw
    int count = 0;
    for (int i = 1; i <= 9; i++) {
        if (board[i] == 'X' || board[i] == 'O') {
            count++;
        }
    }
    if (count == 9) {
        return 0; // Draw
    }

    return -1;
}

```