## Tic-Tac-Toe Game

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

```
Program -
#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;
```

```
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;
/Function to return game status
1 for game is over, -1 is over with result, 0 is game over with 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;
```

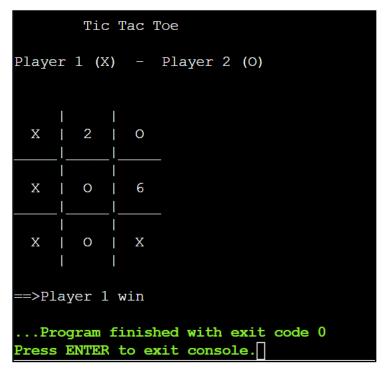
```
else if (square[3] == square[5] && square[5] == square[7])
    return 1;
  else if (square[1] != '1' && square[2] != '2' && square[3] != '3' &&
    square[4] != '4' && square[5] != '5' && square[6] != '6' && square[7]
    != '7' && square[8] != '8' && square[9] != '9')
    return 0;
  else
    return - 1;
/Function 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');
```

}

```
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 -

}



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