***.TIC TAC TOE game:-design a program that allows two players to play the classic game of tic tac toe.***

**#include <stdio.h>**

**char box[10]={'0', '1', '2',' 3', '4', '5', '6', '7',' 8', '9'};**

**void Board\_creating();**

**void Board\_marking(int, char); //function prototyping**

**int Check\_win();**

**int main()**

**{**

**int choice,player=1,i;**

**char mark;**

**do{**

**Board\_creating(); //function call**

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

**printf("Player %d, enter a number: ",player);**

**scanf("%d",&choice);**

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

**Board\_marking(choice,mark);**

**i=Check\_win();**

**player++;**

**}while(i == -1);**

**Board\_creating(); //function call**

**if(i==1)**

**printf("Player %d Won the game",--player);**

**else**

**printf("<------Match Tie------>");**

**return 0;**

**}**

**void Board\_creating() //function defination**

**{**

**printf("\n\nTic Tac Toe\n\n");**

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

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

**printf("-----|-----|----- \n");**

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

**printf("-----|-----|----- \n");**

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

**printf("\n");**

**}**

**void Board\_marking( int choice, char mark) //function defination**

**{**

**if(choice==1 && box[1]=='1')**

**box[1]=mark;**

**else if(choice==2 && box[2]=='2')**

**box[2]=mark;**

**else if(choice==3 && box[3]=='3')**

**box[3]=mark;**

**else if(choice==4 && box[4]=='4')**

**box[4]=mark;**

**else if (choice==5 && box[5]=='5')**

**box[5]=mark;**

**else if (choice==6 && box[6]=='6')**

**box[6]=mark;**

**else if (choice==7 && box[7]=='7')**

**box[7]=mark;**

**else if (choice==8 && box[8]=='8')**

**box[8]=mark;**

**else if (choice==9 && box[9]=='9')**

**box[9]=mark;**

**else**

**{**

**printf("Invalid move");**

**}**

**}**

**int Check\_win() //function defination**

**{**

**if(box[1]==box[2] && box[2]==box[3])**

**return 1;**

**else if(box[4]==box[5] && box[5]==box[6])**

**return 1; // horizontal match**

**else if (box[7]==box[8] && box[8]==box[9])**

**return 1;**

**else if (box[1]==box[4] && box[4]==box[7])**

**return 1;**

**else if(box[2]==box[5] && box[5]==box[8]) // vertical match**

**return 1;**

**else if(box[3]==box[6] && box[6]==box[9])**

**return 1;**

**else if(box[1]==box[5] && box[5]==box[9])**

**return 1;**

**else if(box[3]==box[5] && box[5]==box[7]) //diagonal match**

**return 1;**

**else if(box[1]!= '1' && box[2]!= '2' && box[3]!= '3' && box[4]!= '4'&& box[5]!= '5' && box[6]!= '6'&& box[7]!= '7' && box[8]!= '8' && box[9]!='9') //no match**

**return 0;**

**else**

**return -1;**

**}**