**TICK TACK TOE**

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SECTION: P2

COURSE: BTECH CSE(IT)

**SOURCE CODE:**

#include<stdio.h>

#include<string.h>

char x,o;

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

char u1[50],u2[50];

void board();

void rules();

int checkforwin();

int main()

{

    FILE \*p;

    p=fopen("score.txt","a+");

    fclose(p);

    system("color 09");

    int player=1;

    int choice,score=-1;

    char symbol,re;

    char start,dec;

    int s;

    rules();

    printf("\n\nType 1 to start the game:-\nType 2 to view leader board:-\n");

    scanf("%d",&s);

    if(s==1)

    {

    read:

        p=fopen("score.txt","a+");

    printf("\nEnter name of player1: ");

    scanf("%s",u1);

    fprintf(p,"\n%s",u1);

    printf("Enter name of player2: ");

    scanf("%s",u2);

    fprintf(p,"\t%s",u2);

    fclose(p);

    if(!strcmp(u1,u2))

    {

        printf("Enter names of different players!\n\n");

        goto read;

    }

    else

        decision();

    system("color fc");

    board();

    do

    {

        player=((player%2)?1:2);

        if(player==1)

        printf("%s Type any digit from 1-9 to fill your response:- ",u1);

        else

            printf("%s Type any digit from 1-9 to fill your response:- ",u2);

        scanf("%d",&choice);

        symbol=((player==1)?x:o);

        if(choice==1 && a[0]=='1')

            a[0]=symbol;

        else if(choice==2 && a[1]=='2')

            a[1]=symbol;

        else if(choice==3 && a[2]=='3')

            a[2]=symbol;

        else if(choice==4 && a[3]=='4')

            a[3]=symbol;

        else if(choice==5 && a[4]=='5')

            a[4]=symbol;

        else if(choice==6 && a[5]=='6')

            a[5]=symbol;

        else if(choice==7 && a[6]=='7')

            a[6]=symbol;

        else if(choice==8 && a[7]=='8')

            a[7]=symbol;

        else if(choice==9 && a[8]=='9')

            a[8]=symbol;

        else

            {printf("Wrong Selection\n");player--;}

        score=checkforwin();

        player++;

        board();

    }while(score == -1);

    p=fopen("score.txt","a+");

    if(score==1)

    {

        if(player==2)

        {printf("\n\nPlayer1 %s Wins!\n\n",u1);fprintf(p,"\t%s",u1);

        getch();}

        else

            {printf("\n\nPlayer2 %s Wins!\n\n",u2);fprintf(p,"\t%s",u2);

        getch();

            }

        fclose(p);

    }

    else

        printf("\n\nGame Draws!\n\n");fprintf(p,"\t%s","DRAW");

        getch();

    }

    if(s==2)

    {

        int cho;

        system("cls");

        printf("\n\n");

        printf("\tLEADERBOARD\n\n");

        char c;

        p=fopen("score.txt","r");

        while((c=getc(p))!=EOF)

        {

            printf("%c",c);

        }

        fclose(p);

        printf("\n\nPress 1 to start the game:- ");

        scanf("%d",&cho);

        if(cho==1)

            goto read;

        else

            getch();

    }

    else

    {

        printf("\n\nShould have typed 1 to play the game!\nHope to see you back soon!\n\n");

        getch();

    }

}

int checkforwin()

{

    if(a[0]==a[1] && a[1]==a[2])

        return 1;

    else if(a[3]==a[4] && a[4]==a[5])

        return 1;

    else if(a[6]==a[7] && a[7]==a[8])

        return 1;

    else if(a[0]==a[3] && a[3]==a[6])

        return 1;

    else if(a[1]==a[4] && a[4]==a[7])

        return 1;

    else if(a[2]==a[5] && a[5]==a[8])

        return 1;

    else if(a[0]==a[4] && a[4]==a[8])

        return 1;

    else if(a[2]==a[4] && a[4]==a[6])

        return 1;

    else if(a[0]!='1' && a[1]!='2' && a[2]!='3' && a[3]!='4' && a[4]!='5' && a[5]!='6' && a[6]!='7' && a[7]!='8' && a[8]!='9')

        return 0;

    else

        return -1;

}

void board()

{

    int i;

    system("cls");

    printf("\tTic-Tac-Toe\n\n");

        printf("\n\n");

        printf("%s:- (%c)\n%s:-  (%c)\n\n\n",u1,x,u2,o);

        printf("  %c |  %c | %c\n",a[0],a[1],a[2]);

        printf("    |    |    \n");

        printf("----|----|----\n");

        printf("    |    |    \n");

        printf("  %c |  %c | %c\n",a[3],a[4],a[5]);

        printf("    |    |    \n");

        printf("----|----|----\n");

        printf("  %c |  %c | %c\n",a[6],a[7],a[8]);

        printf("    |    |    \n");

    }

void rules()

{

    char link;

    printf("\tTic-Tac-Toe\n\n");

    printf("Welcome to the most played 2D game and a sort of fun using X and O\n\n");

    printf("Rules:-\n");

    printf("\n1:Each player will be entering the number to put respective X or O in the desired position");

    printf("\n2:Player who gets a combination of 3 same characters either diagonal or horizontally or \n  vertically will be declared as the winner");

    printf("\n\nEnjoy the game! Be a Winner!\n\n");

    printf("For more clarifications press Y else type any other character:- ");

    scanf("%c",&link);

    if(link=='y' || link=='Y')

    {

        system("start http://www.wikihow.com/Play-Tic-Tac-Toe");

    }

}

int decision()

{

    char dec;

        deci:

        printf("\n\nPlayer1 %s choose the X or 0:",u1);

        dec=getchar();

        scanf("%c",&dec);

        {

            if(dec=='X' || dec=='x')

            {

                x='X';

                o='0';

            }

            else if(dec=='0')

            {

                x='0';

                o='X';

            }

            else

            {

                printf("Please enter either X or 0 only \n\n");

                goto deci;

            }

        }

}

**OUTPUT:**











