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#include<stdio.h>
#include<stdlib.h>

char b[3][3];
int Board()
{
    int i,j;

    printf("\n\t\t\tTIC TAC TOE BOARD");
    printf("\n\t\t\t*****");
    printf("\n\n");
    printf("\n\t\t\t 1\t 2\t 3");
    for(i=0;i<3;i++)
    {
        printf("\n\t\t\t_____");
        printf("\n\t\t\t\t\t\t");
        printf("\n\t\t\t%d\t",i+1);
        for(j=0;j<3;j++)
        {
            printf(" %c ",b[i][j]);
            //printf(" ");
        }
        printf("\n\t\t\t\t\t\t");
    }
    printf("\n\t\t\t-----");
}

int chk()
{
    int i;
    for(i=0;i<3;i++)
    {
        if(b[i][0]=='X' && b[i][1]=='X' && b[i][2]=='X')
        {
            printf("\n\nRESULT: Player wins!!");
            printf("\nPress any key.....");
            return 1;
        }
    }
    for(i=0;i<3;i++)
    {

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        if(b[0][i]=='X' && b[1][i]=='X' && b[2][i]=='X')
        {

                printf("\n\nRESULT: Player wins!!");
                printf("\nPress any key.....");
                return 1;

        }
}
if(b[1][1]=='X' && b[2][2]=='X' && b[0][0]=='X')
{

        printf("\n\nRESULT: Player wins!!");
        printf("\nPress any key.....");
        return 1;

}
else if(b[0][2]=='X' && b[1][1]=='X' && b[2][0]=='X')
{

        printf("\n\nRESULT: Player wins!!");
        printf("\nPress any key.....");
        return 1;

}
for(i=0;i<3;i++)
{
        if(b[i][0]=='O' && b[i][1]=='O' && b[i][2]=='O')
        {

                printf("\n\nRESULT: Computer wins!!");
                printf("\nPress any key.....");
                return 2;

        }

}
for(i=0;i<3;i++)
{
        if(b[0][i]=='O' && b[1][i]=='O' && b[2][i]=='O')
        {

                printf("\n\nRESULT: Computer wins!!");
                printf("\nPress any key.....");
                return 2;

        }

}
if(b[0][0]=='O' && b[1][1]=='O' && b[2][2]=='O')
{

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        printf("\n\nRESULT: Computer wins!!");
        printf("\nPress any key.....");
        return 2;
    }
    else if(b[0][2]=='O' && b[1][1]=='O' && b[2][0]=='O')
    {

        printf("\n\nRESULT: Computer wins!!");
        printf("\nPress any key.....");
        return 2;
    }
    return 0;
}

int comtur()
{
    int i,j;
    for(i=0;i<3;i++)
    {
        if(b[i][1]=='O' && b[i][2]=='O' && b[i][0]==' ')
        {
            b[i][0]='O';
            return 1;
        }
        if(b[i][0]=='O' && b[i][2]=='O' && b[i][1]==' ')
        {
            b[i][1]='O';
            return 1;
        }
        if(b[i][1]=='O' && b[i][0]=='O' && b[i][2]==' ')
        {
            b[i][2]='O';
            return 1;
        }
    }
    for(i=0;i<3;i++)
    {
        if(b[1][i]=='O' && b[2][i]=='O' && b[0][i]==' ')
        {
            b[0][i]='O';
            return 1;
        }
        if(b[0][i]=='O' && b[2][i]=='O' && b[1][i]==' ')
        {

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        b[1][i]='O';
        return 1;
    }
    if(b[1][i]=='O' && b[0][i]=='O' && b[2][i]==' ')
    {
        b[2][i]='O';
        return 1;
    }
}
if(b[1][1]=='O' && b[2][2]=='O' && b[0][0]==' ')
{
    b[0][0]='O';
    return 1;
}
if(b[2][2]=='O' && b[0][0]=='O' && b[1][1]==' ')
{
    b[1][1]='O';
    return 1;
}
if(b[1][1]=='O' && b[0][0]=='O' && b[2][2]==' ')
{
    b[2][2]='O';
    return 1;
}

if(b[2][0]=='O' && b[1][1]=='O' && b[0][2]==' ')
{
    b[0][2]='O';
    return 1;
}
if(b[0][2]=='O' && b[1][1]=='O' && b[2][0]==' ')
{
    b[2][0]='O';
    return 1;
}
if(b[2][0]=='O' && b[0][2]=='O' && b[1][1]==' ')
{
    b[1][1]='O';
    return 1;
}

for(i=0;i<3;i++)
{
    if(b[i][1]=='X' && b[i][2]=='X' && b[i][0]==' ')
    {
        b[i][0]='O';
    }
}

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        return 1;
    }
    if(b[i][0]=='X' && b[i][2]=='X' && b[i][1]==' ')
    {
        b[i][1]='O';
        return 1;
    }
    if(b[i][1]=='X' && b[i][0]=='X' && b[i][2]==' ')
    {
        b[i][2]='O';
        return 1;
    }
}
for(i=0;i<3;i++)
{
    if(b[1][i]=='X' && b[2][i]=='X' && b[0][i]==' ')
    {
        b[0][i]='O';
        return 1;
    }
    if(b[0][i]=='X' && b[2][i]=='X' && b[1][i]==' ')
    {
        b[1][i]='O';
        return 1;
    }
    if(b[1][i]=='X' && b[0][i]=='X' && b[2][i]==' ')
    {
        b[2][i]='O';
        return 1;
    }
}
if(b[1][1]=='X' && b[2][2]=='X' && b[0][0]==' ')
{
    b[0][0]='O';
    return 1;
}
if(b[2][2]=='X' && b[0][0]=='X' && b[1][1]==' ')
{
    b[1][1]='O';
    return 1;
}
if(b[1][1]=='X' && b[0][0]=='X' && b[2][2]==' ')
{
    b[2][2]='O';
    return 1;
}
}

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    if(b[2][0]=='X' && b[1][1]=='X' && b[0][2]==' ')
    {
        b[0][2]='O';
        return 1;
    }
    if(b[0][2]=='X' && b[1][1]=='X' && b[2][0]==' ')
    {
        b[2][0]='O';
        return 1;
    }
    if(b[2][0]=='X' && b[0][2]=='X' && b[1][1]==' ')
    {
        b[1][1]='O';
        return 1;
    }
    for(i=0;i<3;i++)
    {
        if(b[i][i]==' ')
        {
            b[i][i]='O';
            return 1;
        }
    }

    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            if(b[i][j]==' ')
            {
                b[i][j]='O';
                return 1;
            }
        }
    }
}

int main()
{
    char *name;
    int sta=0;
    char cho;
    name=(char *)malloc(sizeof(char)*50);

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int i,j,turn=0,r,c;
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
        b[i][j]=' ';
}
Board();
printf("\n\nWhat is your name ? ");
gets(name);
printf("\n\nYou Get X");

while(turn<=9)
{
    printf("\n%s's Turn",name);
    printf("\n\nEnter the row number: ");
    scanf("%d",&r);
    printf("\n\nEnter the column number: ");
    scanf("%d",&c);
    if(b[r-1][c-1]!=' ')
        continue;
    b[r-1][c-1]='X';
    Board();
    sta=chk();
    if(sta==1)
        return 1;
    ++turn;
    if(turn>9)
        break;
    printf("\n\nComputer's Turn");
    comtur();
    Board();
    sta=chk();
    if(sta==2)
        return 1;

    ++turn;
    if(turn>9)
        break;

}
if(sta==0)
    printf("\n\nMatch Draw");

//Board(b);

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    return 0;  
}
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