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**Assignment 1-A :Tic tac toe game with Non-AI approach**

**Code-**

#include <stdio.h>

#include <conio.h>

#include <stdlib.h>

char arr[10] = {'o', '1', '2', '3', '4', '5', '6', '7', '8', '9'};

void showBoard();

int checkForWin();

int main()

{

int player = 1;

int choice, i;

char mark;

do

{

showBoard();

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

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

scanf("%d", &choice);

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

if (choice == 1 && arr[1] == '1')

arr[1] = mark;

else if (choice == 2 && arr[2] == '2')

arr[2] = mark;

else if (choice == 3 && arr[3] == '3')

arr[3] = mark;

else if (choice == 4 && arr[4] == '4')

arr[4] = mark;

else if (choice == 5 && arr[5] == '5')

arr[5] = mark;

else if (choice == 6 && arr[6] == '6')

arr[6] = mark;

else if (choice == 7 && arr[7] == '7')

arr[7] = mark;

else if (choice == 8 && arr[8] == '8')

arr[8] = mark;

else if (choice == 9 && arr[9] == '9')

arr[9] = mark;

else

{

printf("Invalid value\n");

player--;

getch();

}

i = checkForWin();

player++;

} while (i == -1);

showBoard();

if (i == 1)

{

printf("Player %d Won\n", player-1);

}

else

{

printf("Game Draw\n");

}

getch();

return 0;

}

// Function to print the Tic Tac Toe board

void showBoard()

{

system("cls");

printf("\tTIC TAC TOE\n");

printf(" | | \n");

printf(" | | \n");

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

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

printf(" | | \n");

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

printf(" | | \n");

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

printf(" | | \n");

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

printf(" | | \n");

}

int checkForWin()

{

// For Rows

if (arr[1] == arr[2] && arr[2] == arr[3])

return 1;

else if (arr[4] == arr[5] && arr[5] == arr[6])

return 1;

else if (arr[7] == arr[8] && arr[8] == arr[9])

return 1;

// For Columns

else if (arr[1] == arr[4] && arr[4] == arr[7])

return 1;

else if (arr[2] == arr[5] && arr[5] == arr[8])

return 1;

else if (arr[3] == arr[6] && arr[6] == arr[9])

return 1;

// Diagonals

else if (arr[1] == arr[5] && arr[5] == arr[9])

return 1;

else if (arr[3] == arr[5] && arr[5] == arr[7])

return 1;

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

return 0;

else

return -1;

}