PPS LAB ACTIVITY

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Of Class CSE C of Year 1 of Semester1

in PPS Labaratory

Date: **Signature:**

Abstract:

The Functionality of the Tic-Tac-Toe game are mentioned below:

The game is to be played between two people.

One of the players chooses 'O' and the other 'X' to mark their respective cells.

The game starts with one of the players and the game ends when one of the players has one whole row/ column/ diagonal filled with his/her respective character ('O' or 'X').

If no one wins, then the game is said to be drawn.

<u>Source code:</u>

```c
#include<stdio.h>
#include<conio.h>
void printboard();
int checkwin();
void system();
char board[]={'0','1','2','3','4','5','6','7','8','9'};
void main(){
    int player=1,input,status=-1;
```
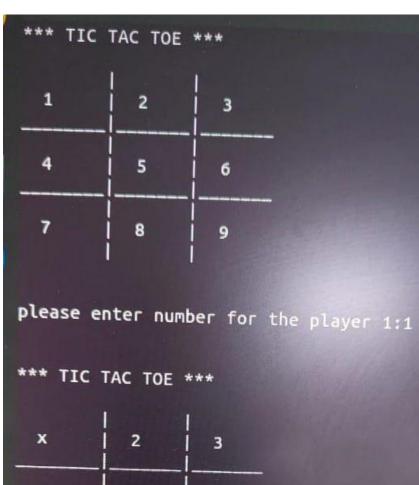
```c
printboard();
while(status=-1)
{
    player=(player%2==0)?2:1;
    char mark=(player==1)?'x':'o';
    printf("Enter number for player %d",player)

    scanf("%d",&input);

if(input<1 || input>9){
    printf("invalid input");
}
board[input]=mark;
printboard();
int result=checkwin();
if(result==1){
    printf("player %d is the winner",player);
}else if(result==0){
    printf("draw");
    return;
}
```

```c
        player++;

        }

}
void printboard(){
    system("cls");
    printf("\n\n");
    printf("** TIC TAC TOE **\n\n");
    printf("     |     |     \n");
    printf("  %c  |  %c  |  %c  \n",board[1],board[2],board[3]);
    printf("___|__|___\n");
    printf("     |     |     \n");
    printf("  %c  |  %c  |  %c  \n",board[4],board[5],board[6]);
    printf("___|__|___\n");
    printf("     |     |     \n");
    printf("  %c  |  %c  |  %c  \n",board[7],board[8],board[9]);
    printf("     |     |     \n");
    printf("\n\n");
}
int checkwin(){
```

```
if(board[1]==board[2] && board[2]==board[3]){

    return 1;

}
if(board[1]==board[4] && board[4]==board[7]){

    return 1;

}
if(board[7]==board[8] && board[8]==board[9]){

    return 1;

}
if(board[3]==board[6] && board[6]==board[9]){

    return 1;

}
if(board[1]==board[5] && board[5]==board[9]){

    return 1;

}
if(board[3]==board[5] && board[5]==board[7]){

    return 1;

}
if(board[2]==board[5] && board[5]==board[8]){

    return 1;
```

```
        }
        if(board[4]==board[5] && board[5]==board[6]){

            return 1;

        }
        int count =0;
        for(int i =1; i <=9;i++)

        {

            if(board[i]=='x' || board[i]=='o'){

                count++;

            }

        }
        if(count==9){

            return 0;

        }
        return -1;

}
```

Output:

```
*** TIC TAC TOE ***

       |       |
   1   |   2   |   3
_____|_____|_____
       |       |
   4   |   5   |   6
_____|_____|_____
       |       |
   7   |   8   |   9
       |       |

please enter number for the player 1:1

*** TIC TAC TOE ***

       |       |
   x   |   2   |   3
_____|_____|_____
       |       |
   4   |   5   |   6
_____|_____|_____
       |       |
   7   |   8   |   9
       |       |

please enter number for the player 2:5
```

```
*** TIC TAC TOE ***

   X   |   2   |   3
-------|-------|-------
   4   |   O   |   6
-------|-------|-------
   7   |   8   |   9

please enter number for the player 1:2

*** TIC TAC TOE ***

   X   |   X   |   3
-------|-------|-------
   4   |   O   |   6
-------|-------|-------
   7   |   8   |   9

please enter number for the player 2:6
```

```
*** TIC TAC TOE ***

   X   |   X   |   3
 _____|_____|_____
       |       |
   4   |   O   |   O
 _____|_____|_____
       |       |
   7   |   8   |   9
       |       |

please enter number for the player 1:3

*** TIC TAC TOE ***

   X   |   X   |   X
 _____|_____|_____
       |       |
   4   |   O   |   O
 _____|_____|_____
       |       |
   7   |   8   |   9
       |       |

player 1 is the winnerc@cse:~/23wh1a05c9$
```