# Assignment No.- 6
# ELP - 718 Telecom Software Lab

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A report presented for the assignment Developing logical skills to solve the given problem with the help of basic C.

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# Contents

# 1    Problem statement 1

3X3 Numeric Tic-Tac-Toe (Use numbers 1 to 9 instead of Xs and Os) One player plays with the odd numbers (1, 3, 5, 7, 9) and other player plays with the even numbers (2,4,6,8). All numbers can be used only once. The player who puts down 15 points in a line wins (sum of 3 numbers). Always Player with odd numbers start the game. Once a line contains two numbers whose sum is 15 or greater, there is no way to complete that line, although filling in the remaining cell might be necessary to complete a different line. Note Line can be horizontal, vertical or diagonal

**Constraints:**

1. $1 <= Position <= 9$

2. $1 <= Number <= 9$

3. $1 <= Sum <= 15$

## 1.1    Terminal:

1. Print Welcome to the Game!.

2. Print whether it is Player 1s or Player 2s chance.

3. Get the position and number to be entered from user.

4. Show tic tac toe with data.

5. Continue till the game gets draw or some player wins and show result.

6. Ask user whether to continue for next game or exit.

## 1.2    Structure Chart

```
                        ┌──────────┐
                        │  Start   │
                        └──────────┘
                             │
                             ▼
                   ╱──────────────────╲
                  ╱   create a board    ╲
                  ╲────────────────────╱
                             │
                             ▼
                   ╱──────────────────╲
                  ╱    check for the    ╲
                 ╱   free spaces and     ╲
                ╱   ask for the term      ╲
                ╲   of player1 or 2      ╱
                  ╲──────────────────╱
                             │
                             ▼
                      ┌──────────┐
                      │ assign the│
                      │ value based│          ◄──────────────┐
                      │ on term and│                         │
                      │position asked│                       │
                      │ from the user│                       │
                      └──────────┘                           │
                             │                               │
                             ▼                               │
                          ◇ if          yes       ┌──────────────┐
                          ◇ sum!=15 ◇──────────►  │  continue    │
                          ◇                        │  the game    │
                             │                     └──────────────┘
                             │ no
                             ▼
                      ┌──────────┐
                      │ game over │
                      └──────────┘
                             │
                             ▼
                        ┌──────────┐
                        │   Stop   │
                        └──────────┘
```
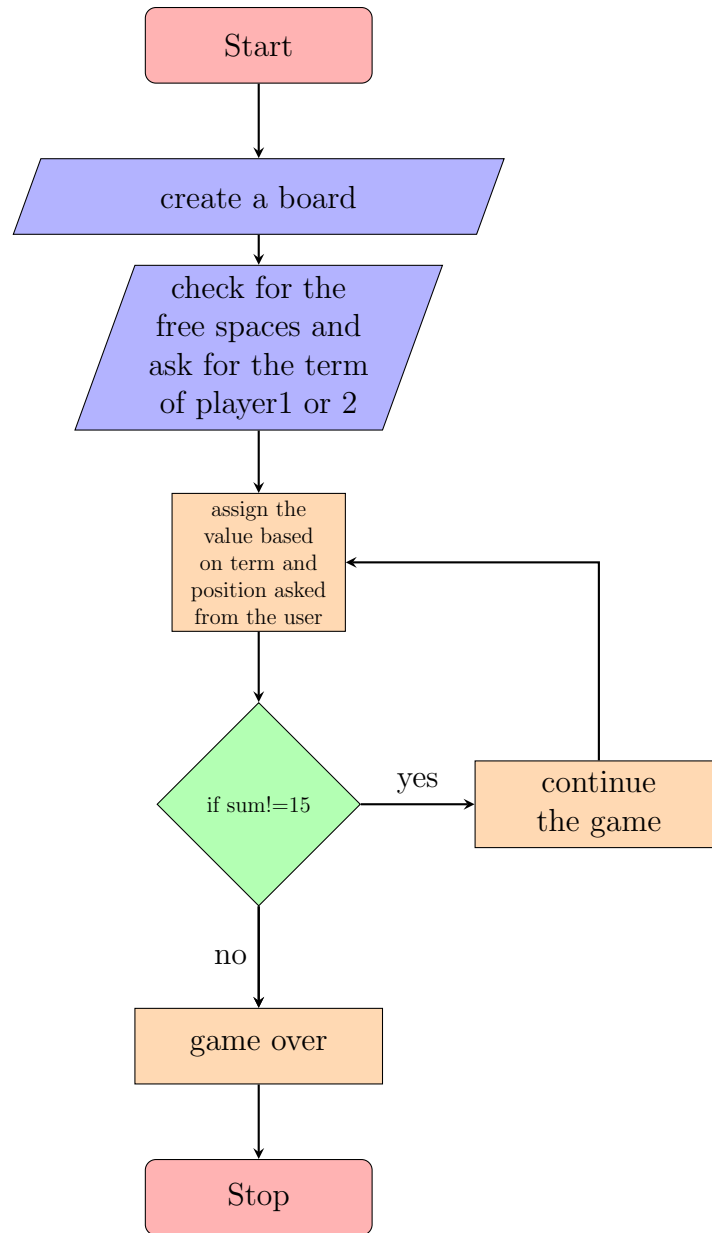
## 1.3    Output Format

Welcome to the Game! Player 1s chance Enter the position and number to be entered: 5,3
Player 2s chance Enter the position and number to be entered: 7,4

4