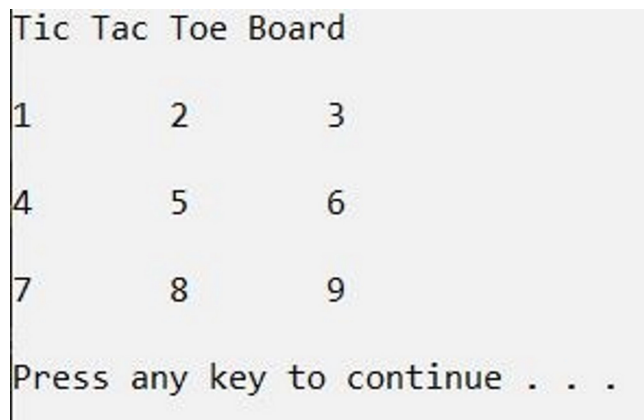


# Project Based Learning @ROOT - IT

## Tic Tac Toe - Project Decomposition

1. Understand the Game Logic. Use <https://www.youtube.com/watch?v=3qzcAMShotQ> for explanation on how to play.
2. To be created as a **Console Application**.
3. How many Rounds in a Game? 3 or 5?
4. Decide if it is a 1D array of 9 elements or a 3 x 3 2D array. We choose 1D array containing *Characters*.
5. Display the Board to the user as a 3 x 3 2D array as shown in the image below.



```
Tic Tac Toe Board
1      2      3
4      5      6
7      8      9
Press any key to continue . . .
```

6. Get player names as input. Player 1 and Player 2.
7. X plays first, but who gets the symbol X, is to be determined by a Coin Toss or Random Generation and set them as Current Player.

8. Once the Current Player is determined, we can get Player input position for placing Current Player Symbol - X or O.
9. Refresh the board and show where X or O is placed.
10. If it has been 5 moves or more in total, then check if the current player has won or if the game is draw
11. If the round is won or draw, break the loop and display the round results.
  - **Write code to display the round results**
  - **Update the Player Score**
  - **Check if the Overall Game (best of 3/5) is Won or Draw, then break the loop and Display Results Accordingly.**
  - **Otherwise, Move on to Next Round where the other player (Who played as O) will start as X and if it is the final round, then another Coin Toss could be used to determine who plays as X.**
12. Otherwise, **switch current player to other symbol** and repeat steps from 8 to 11 till round ends.