# Assumptions and Implementation:

* We start the game, initialize the board of 3x3 with random numbers between 1-8 and leave one place empty.
* **Pseudocode initializeBoard():**
  + 1. i=0 to 3
    - j=0 to 3
      * board[i][j]=0
  + 2. row = generate random number between 1-8
  + 3. col = generate random number between 1-8
  + 4. Check if board[row][col] == 0, if equal then repeat from step 2
  + 5. Number = generate random number between 1 – 8
  + 6. i=0 to 3
    - j=0 to 3
      * if board[i][j]==number, if equal
        + number = generate another random number between 1 – 8
        + repeat from step 3
  + 7. place number at board[row][col]
  + 8. Repeat from step 2 until only single place in board is empty
* **Pseudocode move(int val):**
  + Row=0, col=0
  + 1. i=0 to 3
    - j=0 to 3
      * if board[i][j]==val then
        + row=i , col = j
        + stop looping
  + 2. If row > 0 and board[row - 1][col] == 0 then
    - Board[row – 1][col] = val
    - Board[row][col] =0
  + 3. If row < 2 and board[row + 1][col]==0 then
    - Board[row + 1][col] = val
    - Board[row][col] = 0
  + 4. If col > 0 and board[row][col - 1] then
    - Board[row][col - 1] = val
    - Board[row][col] = 0
  + 5. If col < 2 and board[row][col + 1] then
    - Board[row][col + 1] = val
    - Board[row][col] = 0
* **Pseudocode isWon():**
  + Num=1
  + i=0 to 3
    - j=0 to 3
      * if board[i][j] !=Num and not (i==2 and j==2) then
      * return false
  + return true

## Summary:

* Create object of puzzle as game
* Call turn() using game
* Until user Won
  + Clear screen
  + Call turn again
  + Increment the move counter
* Show the final board with congratulation message.
* This is a single player game. A board is filled with random numbers between 1 to 8 at different places and left one box empty.
* User can type the number to move it to adjacent available space, if there is no space, it do nothing.
* When player successfully ordered all the number he won.