Tic Tac Toe, Program Design   
// set up, board (char 0-8), display board (3x3), symbol and gameState code (0:ongoing, 1:tie, 2:win)  
 while(gameState ==0){  
   
 // take turn  
 int choice = makeChoice(playBoard,symbol);   
   
 //update boards  
 playBoard[choice] = symbol;   
 updateBoard(displayBoard,choice, symbol);  
   
 // game state 0: ongoing 1: tie 2: win  
 gameState = getGameState(playBoard);   
   
 // display   
 display(displayBoard);  
 symbol = togglePlayer(symbol);  
 }//while  
   
 // rewind to previous player, who won  
 reportResults(gameState, togglePlayer(symbol));   
 }// main

static void reportResults(int state, char player)

1. After the game has ended, reports whether the (last) player won or tied
2. Input: the gamestate (post loop: won or tied)
3. Output: none

static char togglePlayer(char s)

1. Switches player symbol from X to O or O to X

2. Input: the current player’s symbol

3. Output: next player’s symbol

static int getGameState(char [] b)

1. Decodes the (playing) board to see if the game is still in play or if there’s a winner/tie
2. Input: the playing board
3. Output: the gamestate code:

0 if game still going// 1 if tie // 2 if win  
  
static char[][] updateBoard(char [][] db, int ch, char sym)

1. puts the current player’s symbol on the display board,
2. Input: display board, player’s choice (square number), symbol
3. Output: the updated display board

static void display(char [][]b){

1. displays the display board
2. Input: the display board
3. Output:

static int makeChoice(char []b, char s)

1. Prompts the user for their row/col preference, encodes the choice as a 0-8, puts the symbol in the playing board
2. Input: the playing board and the player’s symbol
3. Output: the choice code