

Chapter 7, #19 – Tic Tac Toe.

```
package Homework2;
public class TicTacToe {
    public static void main(String[] args) {
        final int nought = 1;
        final int cross = 2;
        final int empty = 0;

        int[][] arr = {           // Horizontal           // Vertical           // Diagonal
            {1, 2, 1},           // 0,0 == 0,1 == 0,2 // 0,0 == 1,0 == 2,0 // 0,0 == 1,1 == 2,2
            {2, 0, 2},           // 1,0 == 1,1 == 1,2 // 0,1 == 1,1 == 2,1
            {2, 2, 1}};          // 2,0 == 2,1 == 2,2 // 0,2 == 1,2 == 2,2 // 0,2 == 1,1 == 2,0

        System.out.println(determinTheWinner(arr));
    }

    public static String determinTheWinner(int[][] arr) {
        String nought = "Nought has win";
        String cross = "Cross has win";
        String nobody = "No one win";
        for (int i = 0; i < 3; i++) {
            if (arr[i][0] == arr[i][1] && arr[i][1] == arr[i][2]) {
                if (arr[i][0] == 1) {
                    return nought;
                } else if (arr[i][0] == 2) {
                    return cross;
                }
            } else if (arr[0][i] == arr[1][i] && arr[1][i] == arr[2][i]) {
                if (arr[0][i] == 1) {
                    return nought;
                } else if (arr[0][i] == 2) {
                    return cross;
                }
            } else if (arr[0][0] == arr[1][1] && arr[1][1] == arr[2][2]) {
                if (arr[0][0] == 1) {
                    return nought;
                } else if (arr[0][0] == 2) {
                    return cross;
                }
            } else if (arr[0][2] == arr[1][1] && arr[1][1] == arr[2][0]) {
                if (arr[0][2] == 1) {
                    return nought;
                } else if (arr[0][2] == 2) {
                    return cross;
                }
            }
        }
        return nobody;
    }
}
```

