

## src\MagicSquare.java

```
1 public class MagicSquare {
2     public static void main(String[] args) {
3         buildMagicSquare(3);
4         int [][] siamese = buildMagicSquare(3);
5         printMagicSquare(siamese);
6     }
7     public static int[][] buildMagicSquare(int n){
8         //fix
9         int [][] siamese = new int[n][n];
10        for (int r = 0; r < siamese.length ; r--){
11            for (int c = 0; c < siamese[r].length; c++) {
12                siamese[r][n / 2 + 1] = r;
13                if (r < 0){
14                    r = siamese.length - 1;
15                }
16                if( c > siamese.length){
17                    c = 0;
18                }
19                if (siamese[r][c] != 0){
20                    r += 2;
21                    c--;
22                }
23                if ( c < 0){
24                    c = siamese.length - 1;
25                }
26            }
27        }
28        return siamese;
29    }
30    public static void printMagicSquare(int[][] siamese){
31        for (int [] row : siamese) {
32            for (int val : row) {
33                System.out.printf("%3d", val );
34            }
35        }
36    }
37    public static boolean sumMagicSquare(int[][] siamese) {
38        //fix
39        // rows array
40        int[] sumRow = new int[siamese.length];
41        for (int r = 0; r < siamese.length; r++) {
42            sumRow[r] = siamese[r][0] + siamese[r][1];
43        }
44        //columns array
45        int[] sumColumn = new int[siamese.length];
46        for (int c = 0; c < siamese[0].length; c++) {
47            sumRow[c] = siamese[c][c] + siamese[c][c];
48        }
49        //diagonal array
50        int[] sumDiagonaltop = new int[siamese.length];
51        for (int corner1 = 0; corner1 < sumColumn.length; corner1++) {
52            sumDiagonaltop[corner1] = siamese[corner1][corner1] + siamese[corner1 + 1][corner1 +
```

```
53     1];
54
55     }
56     //diagonal2 array
57     int[] sumDiagonalbottom = new int[siamese.length];
58     for (int corner2 = siamese.length; 0 > sumColumn.length; corner2++) {
59         sumDiagonaltop[corner2] = siamese[corner2][corner2] + siamese[corner2 + 1]
60     [corner2 + 1];
61     }
62     //check
63     for (int i = 0; i < siamese.length; i++) {
64         if (sumRow[i] != sumColumn[i] || sumRow[i] != sumDiagonaltop[i] || sumRow[i] !=
65 sumDiagonalbottom[i]){
66             return false;
67         }
68     }
69     return true;
70 }
```