

6 – LATIN SQUARES

A Latin Square is an $n \times n$ table filled with n different symbols in such a way that each symbol occurs exactly once in each row and exactly once in each column (see http://en.wikipedia.org/wiki/Latin_square).

For example, two possible Latin Squares of order 6:

1 2 3 4 5 6	3 4 5 6 1 2
2 3 4 5 6 1	4 5 6 1 2 3
3 4 5 6 1 2	5 6 1 2 3 4
4 5 6 1 2 3	6 1 2 3 4 5
5 6 1 2 3 4	1 2 3 4 5 6
6 1 2 3 4 5	2 3 4 5 6 1

Obviously, the top-left numbers are 1 and 3 respectively.

Your program will ask user to input two numbers. The first number is the order of square; the second one is the top-left number of the square. Note that the second number should be between 1 and the first number, so your program should check this situation.

Then, your program will print the corresponding Latin Square.

```
### ECO CS 18 ##
### Project 6 ##
```

```
Please input the order of square: 8
Please input the top left number: 1
The Latin Square is:
1 2 3 4 5 6 7 8
2 3 4 5 6 7 8 1
3 4 5 6 7 8 1 2
4 5 6 7 8 1 2 3
5 6 7 8 1 2 3 4
6 7 8 1 2 3 4 5
7 8 1 2 3 4 5 6
8 1 2 3 4 5 6 7
```

```
Please input the order of square: 5
Please input the top left number: 3
The Latin Square is:
3 4 5 1 2
4 5 1 2 3
5 1 2 3 4
1 2 3 4 5
2 3 4 5 1
```