## 9.Orbit

You will be given an empty rectangular space of cells. Then you will be given the position of a star. You need to build the orbits around it.

You will be given a coordinate of a cell, which will **always be** **inside the matrix**, on which you will put the value - **1**. Then you must set the values of the cells **directly surrounding that cell**, including the **diagonals**, **to 2**. After which you must set the values of the next surrounding cells to 3 and so on. Check the pictures for more info.

For example, we are given a matrix that has 5 rows and 5 columns and the star is at coordinates - **0, 0**. Then the following should happen:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  |  |  |  |  | 1 | 2 |  |  |  |  |  | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  | 2 | 2 |  |  |  |  |  | 2 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 3 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 4 | 4 | 4 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 5 | 5 | 5 | 5 |

If the coordinates of the star are somewhere in the middle of the matrix for example - **2, 2**, then it should look like this:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 3 | 3 | 3 | 3 |
|  |  |  |  |  |  |  |  | 2 | 2 | 2 |  |  |  | 3 | 2 | 2 | 2 | 3 |
|  |  | 1 |  |  |  |  |  | 2 | 1 | 2 |  |  |  | 3 | 2 | 1 | 2 | 3 |
|  |  |  |  |  |  |  |  | 2 | 2 | 2 |  |  |  | 3 | 2 | 2 | 2 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 3 | 3 | 3 | 3 |

### Input

The input comes as an array of 4 numbers **[width,** **height,** **x,** **y]**, which represents the **dimensions** ofthematrix and the **coordinates** ofthestar**.**

### Output

The output is the filled matrix, with the cells **separated by a space**, each **row on a new line**.

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| [4, 4, 0, 0] | 1 2 3 4  2 2 3 4  3 3 3 4  4 4 4 4 |  | [5, 5, 2, 2] | 3 3 3 3 3  3 2 2 2 3  3 2 1 2 3  3 2 2 2 3  3 3 3 3 3 | [3, 3, 2, 2] | 3 3 3  3 2 2  3 2 1 |

### Hints

* Check if there is some **dependency** or **relation** between the **position of the numbers** and the **rows** and **columns** of those positions.