19 Image Scale

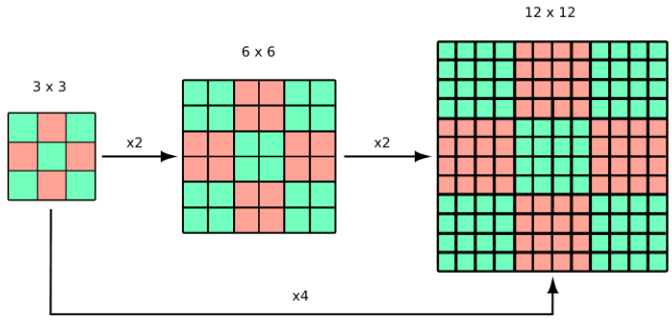
10 points

Introduction

Resizing images is common when dealing with them on computers. You probably have done it hundreds of times. But, how does it work?

Usually, we have the information the file offers and nothing else. So the resolution won't be increased if we make it bigger. Instead, each pixel will be expanded in an area of more pixels. We will be treating the scaling up cases only. Let's get a clearer idea with an example:

Let's say we have a squared image of 9 pixels of 3x3 and want to make it twice as big. Now we will have an image with 36 pixels of 6x6 but with the same information.



See that when we duplicate the size of an image, each pixel now is contained within 4. So we can expect that 1px scaled by a factor of 2 is represented by a 2x2px area.

Now that we already know how images are resized, it is time to actually program it.

Input

- N rows and M columns the image has. Values don't have to be equal.
- Sn, Sm scale up factor for the *n* rows and *y* columns respectively. It must be an integer and values don't have to be equal.
- Each line will be a row of the image. Each pixel will be an integer within the range 0 to 255 separated by a space.

Output

The image value array scaled up.

Example 1

Input

```
3 3
2 2
255 0 255
0 255 0
255 0 255
```

Output

```
255 255 0 0 255 255
255 255 0 0 255 255
0 0 255 255 0 0
0 0 255 255 0 0
255 255 0 0 255 255
255 255 0 0 255 255
```

Example 2

Input

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

Output

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