

1 Squares and Triangles

In this exercise you will need to use IO to print a rectangles, squares, trapezoids and triangles.

Rectangles & Squares Implement a function `rectangle` that, given a width and a height prints a rectangle composed of `*` characters with the given dimensions.

For example:

```
> rectangle 4 2
****
****
> rectangle 10 5
*****
*****
*****
*****
*****
```

Also implement a function `square` that takes a single dimension and creates a square with edges of the given dimension.

For example (note: because the characters on a terminal are rectangular, the image on the screen will not be exactly square).

```
> square 2
**
**
> square 5
*****
*****
*****
*****
*****
```

Trapezoids & Triangles Implement a function `trapezoid` that, given the width w of the top edge and the height h prints a trapezoid composed of `*` characters with a top edge of length w , a height h , and a bottom edge parallel to the bottom edge of length $w + 2(h - 1)$. The midpoints of top and bottom edges must line up.

For example:

```
> trapezoid 4 3
****
*****
*****
```

Note: There should be no spaces on the right of the stars!

Also implement a function `triangle` that, given a height h prints an equilateral triangle with base $2(h - 1) + 1$.

For example:

```
> triangle 1
*
> triangle 2
*
***
> triangle 4
*
***
*****
*****
```