Digital pictures

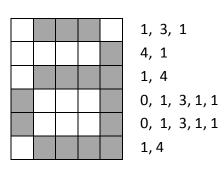
Computers have to use numbers for everything they do. In order to store and transmit pictures, computers use numbers to code the pictures. Digital cameras, smart phones, and other electronic gadgets do it, too.

Computer screens are divided into a grid of small dots called **pixels**. "Pixel" comes from <u>pic</u>ture <u>el</u>ements. To keep things simple, think about a black and white picture, so each pixel is either black or white.

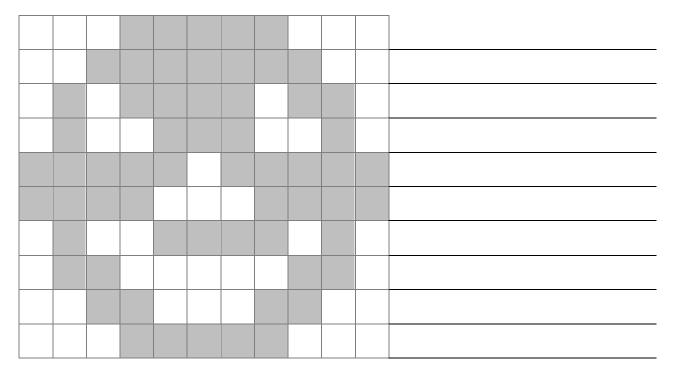
Example: a small letter "a"

Note that the first number <u>always</u> is about white pixels, so *if the first pixel is black, we need to start with 0*!

[In colour? A separate number is used to store that information.]



How would a computer code this?



De-code this picture:

						3, 1, 8
						2, 1, 9
						1, 3, 6, 1, 1
						0, 2, 1, 1, 7, 1
						0, 4, 7, 1
						2, 9, 1
						2, 8, 2
						2, 8, 2
						2, 1, 6, 1, 2
						1, 2, 5, 2, 2

Create your own picture and code it. Carefully copy out the **code only** onto a separate sheet, then give your puzzle to a friend to de-code.