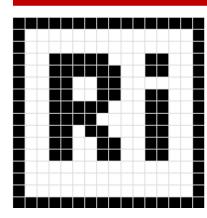
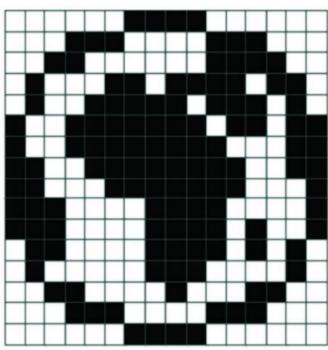
## Run Length Encoding



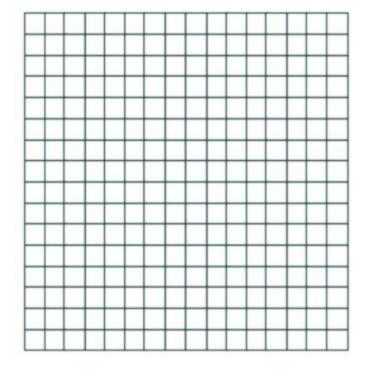
If we describe the image of the Royal Institution logo (left) using run-length encoding, we write down the number of repeated squares and their colour. So the top row of pixels in the logo would be encoded as: 0 white and 16 black. We always start with white, so this can be shortened to 0, 16. This encodes the top row in just two pieces of information rather than 16 individual pixels. The second row would be encoded 0, 1, 14, 1.

Armed with that knowledge, can you encode the image below?





We can do even better if we know the row length, because the last value isn't needed. Can you render the image from the compressed information below?



7, 2 6, 4 4,8 2, 12 1, 14 1, 14 1, 1, 5, 2, 5, 1 1, 1, 5, 2, 5, 1 1, 1, 5, 2, 5, 1 1, 14 1, 14 1, 14 1, 2, 3, 4, 3, 2 1, 2, 3, 1, 2, 1, 3, 2 1, 2, 3, 1, 2, 1, 3, 2 1, 6, 2, 6

Ideas and resources courtesy
of The Royal Institution and
Hi-Tech Trek (goo.gl/hKTBLa)

The Royal Institution
of Great Britain