# Professor Paul Curzon
*The Magic and Maths of Computer Science*

**https://cs4fndownloads.wordpress.com/**
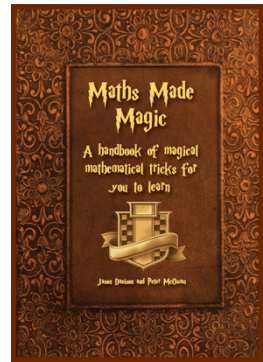look for **Magic** to **download** free books & tricks

## Mathematical Magic

"Mathematics and magic may seem a strange combination, but many of the most powerful magical effects performed today have a mathematical basis. Maths is also the secret behind the technologies we use, the products we buy and the jobs we do."

## Maths Made Magic
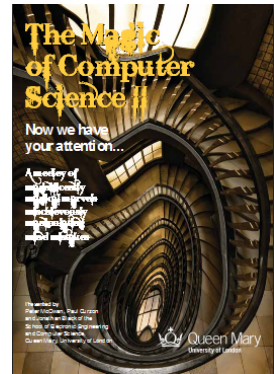
"We invite you to explore."

## The Magic of Computer Science

"**Pick a card, any card!**
How often have you heard magicians say that? The normal routine is that you pick a card, the magician shuffles the deck, and *abracadabra*, reveals your chosen card. But behind this magic often lies some interesting maths and computer science..."
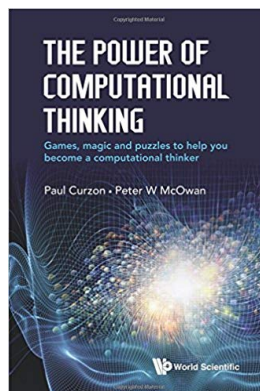
## Illusioneering

"Science and engineering represent great opportunities for magic...

...entertain your friends and explore some clever science and engineering too."

## The Power of Computational Thinking

**Games, magic and puzzles to help you become a computational thinker**

"Computational thinking has changed the way we all live, work and play. It has changed the way science is done too; won wars, created whole new industries and saved lives. It is at the heart of computer programming and is a powerful approach to problem solving, with or without computers."

*Available from Amazon and other bookshops*

**contact cs4fn@eecs.qmul.ac.uk**

# Computer Science, Maths and Numeracy

Computational Thinking overlaps with the way mathematicians think. Computer Science topics can be used to support numeracy by giving an exciting, fun real world context for the importance of numbers and mathematics. Maths forms the background of lots of our resources. Here are some examples.

## Download from bit.ly/TLC-maths

### Pixel Puzzles

These simple colour-by-number puzzles show how computer images are represented as numbers and come in several variations. In the simplest each number tells you how to colour a square. In others you are given a number telling you how many consecutive squares to colour.
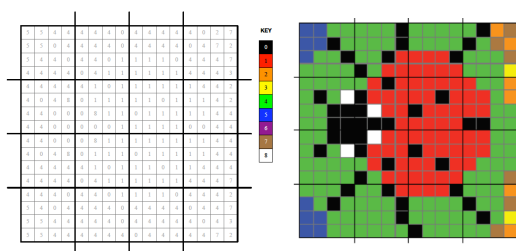
### Algorithmic Doodle Art

Follow simple algorithms involving fractions to draw pictures reminiscent of nature.
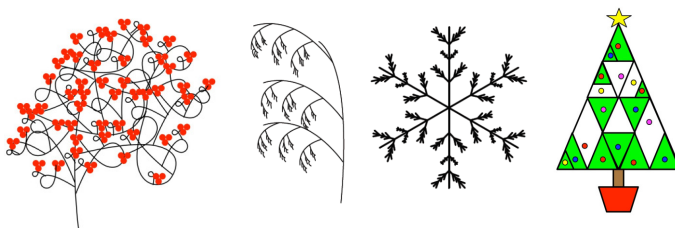
### The Invisible Palming Magic Trick Activity

This simple but surprisingly powerful magic trick is about algorithms but it is also a fun way to talk about odd and even numbers.

### A brief Tour of Computational Thinking: The Knight's Tour and other puzzles

A booklet writing up the combination of the Tour Guide and Knight's Tour Activities exploring the use of graphs as an abstraction for representing computing problems

### Punch Card Searching

Demonstrate how early computers were able to find data stored on punch cards using the above magic algorithm based on binary numbers.

More at teachinglondoncomputing.org/mmc/