Pīkau Name: Computational Thinking: the International Perspective

Video Name: ENGLISH Computer Science Unplugged - Part 2 Sorting Networks - 2005

Presenter: Professor Tim Bell

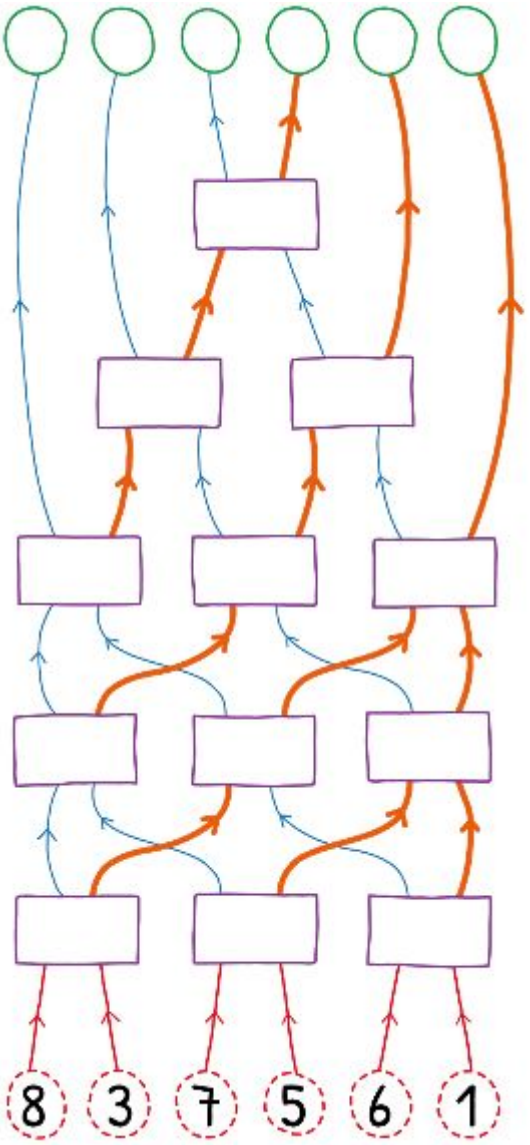
Welcome to 'Computer Science Unplugged'. These are a series of activities designed to introduce children to some of the great ideas in computer science, without using a computer. This video is to give you an idea of how the sorting network activity works.

You might have noticed that nearly every list that you get out of a computer is sorted in some way. Perhaps alphabetical, or perhaps by date or file size. Sorting data into an order makes it much easier to work with, not just for the user but also for the computer. For this reason computer scientists have spent a lot of time looking for better ways to sort data. Today we're going to look at a clever way of doing the sorting quickly.

We are going to sort these six numbers into order using the pattern on the floor. The trick is to follow the lines on floor until you meet someone at a box. You compare your number with the other person and the smaller number goes to the left while the larger one goes to the right. Everyone does this at the same time, so you have three comparisons being made at once. You continue through the sorting network until you get to the boxes at the end. If you've done everything correctly you'll come out in increasing order from left to right.

The sorting network is a great team activity, and you can time teams against each other. You can design larger sorting networks to sort more than six numbers, but you need to be very organised. You can find lots more details about using sorting networks at our website (https://csunplugged.org/en/) and in the Unplugged books.

The diagram below shows the Sorting Network mentioned in the above transcript. The Sorting Network is worked through from bottom to top, following the order of the arrows.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