In mathematics and informatics, this process can be viewed as a square matrix which has all its elements 0 in the begging. Let's say we have i=1,10 - the row index and j=1,10 - the column index. In order to make this pattern we have to change each element that has both i and j even or odd.

Examples:
• matrix[5][8]=0 because 5 is odd and 8 is even
• matrix[6][4]=1 because 6 and 4 are both even.
• matrix[3][7]=1 because 3 and 7 are both odd

Our idea is to make a weaving which consists of 20 paper strips: 10 vertical ones and 10 horizontal ones. Because we wanted to build a weaving robot, we started by weaving the strips ourselves to find a pattern.

In order to move the 2 sets of vertical strips simultaneously, we have to connect the sticks to a string and place it on the wheels, which are used as pulleys.

For this part we used 2 wheels: one for pushing the paper strips forward from their initial position on the rail, and the other for moving the rail to the next strip.

What about a 3 strand braid?