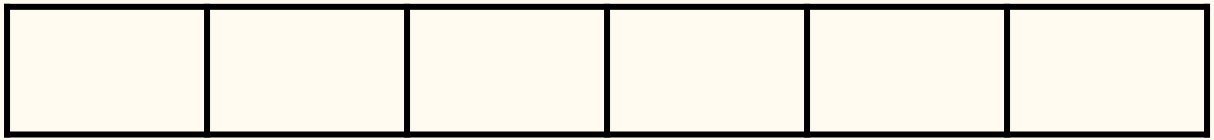
CAMI - Exploding Dots

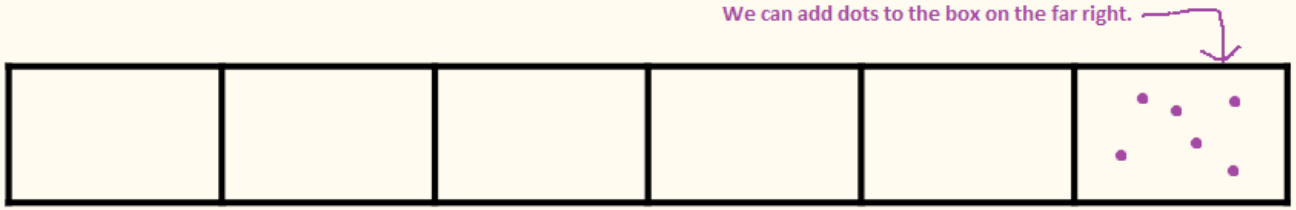
6.28.18
BMCC F306

An interesting machine...

The 1←2 Machine:

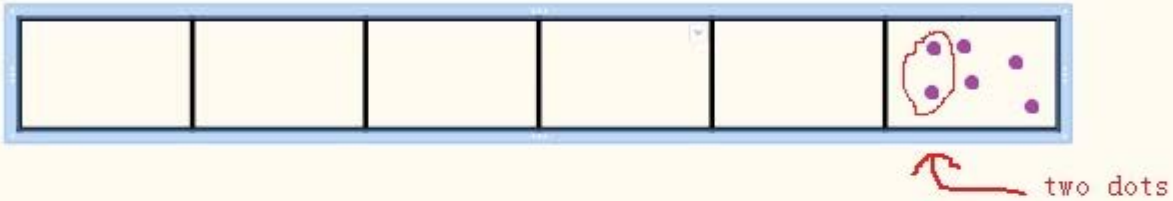


The 1←2 Machine:



The 1←2 Machine:

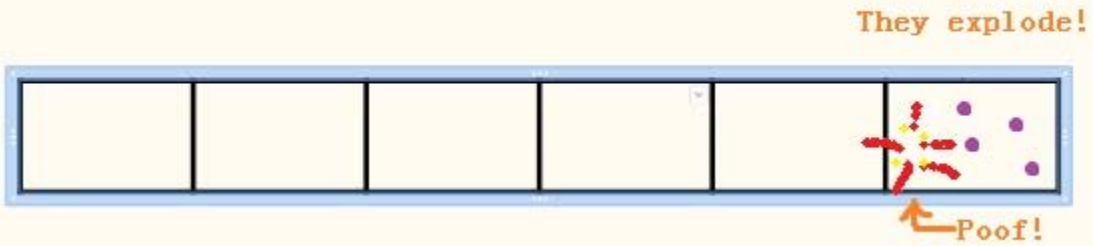
When there are two dots in the same box...



The 1←2 Machine:

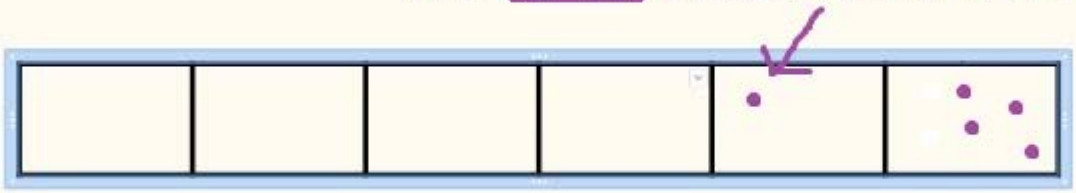
When there are two dots in the same box...

The 1←2 Machine:



The 1←2 Machine:

And a new dot appears, one box to the left

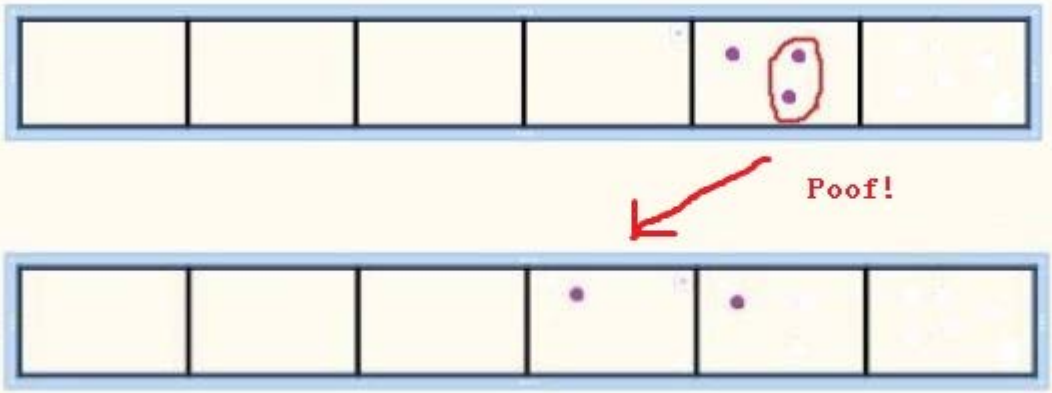


The 1←2 Machine:

The Machine keeps going until it reaches equilibrium...

The 1←2 Machine:

The 1←2 Machine:



Let’s try another...

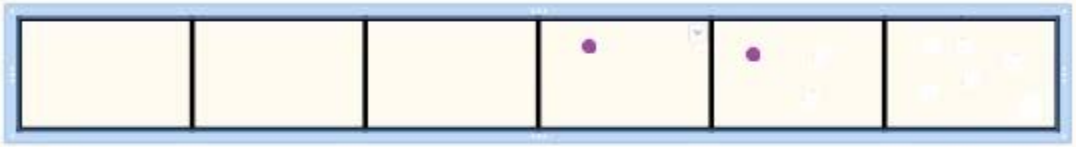
With 3 dots…

With 15 dots…

With...

Exploding Dot Machines make “Machine Codes”

The 1←2 Machine code for “six dots”:



1 1 0

Questions to consider:

a) What is the machine code for the number thirteen?

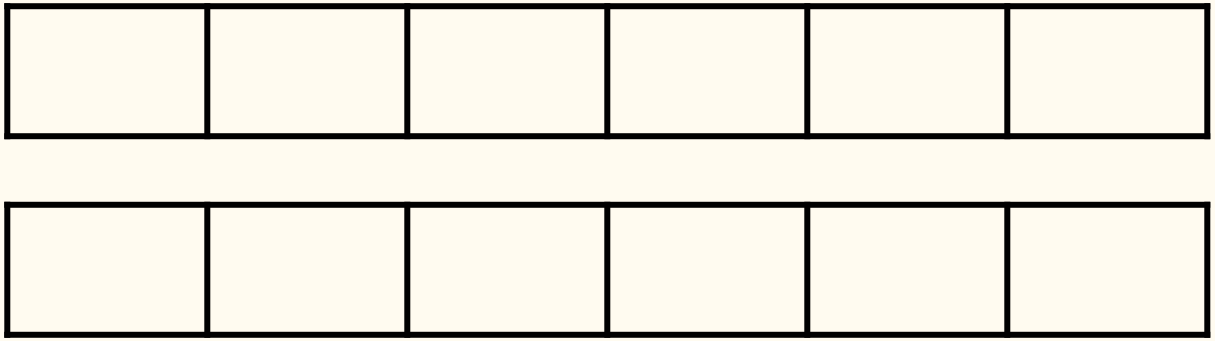
b) What is the code for fifty in this machine?

c) Could a number ever have code 100211 in a 1←2 machine?

d) Which number has code 10011 in a 1←2 machine?

More Machines!

- What would a $1 \leftarrow 3$ machine do?
- What about a $1 \leftarrow 10$ machine?
- Make your own!

What do you notice?

What do you wonder?