MathMagic - Activity #1

# Summary

Magical tricks are always interesting. I don’t know even a person who doesn’t like this kind of thing. For the ones who doesn’t have curiosity, it’s a way to entertain themselves, to make their eyes spark with the magic. For those who are curious, magics are always problems to be solved and uncovered, a battle between spectator and the magician.

On this Workshop you’ll learn a mathematical magic trick. Also, you’ll learn how to model it using a programming language (Python). Therefore, through the next few hours, we will briefly cover the following subjects:

* Computational Thinking
* Mathematical Thinking
* Pseudo Algorithms
* Algorithms
* Programming Language - Python

# Curriculum Links

* Mathematics: Number - Exploring numbers in other bases. Representing numbers in base two.
* Mathematics: Algebra - Continue a sequential pattern, and describe a rule for this pattern. Patterns and relationships in powers of two.
* Mathematics: Linear Algebra - Vectors and Arrays.
* Computer Science: Arrays - Storing numbers into an array.
* Computer Science: Conditional - Taking decisions based in logical expressions.
* Computer Science: Binary numbers.

# Materials

* You’ll need to make a set of five cards. You can have them through the following link: [Cartes](https://drive.google.com/file/d/0B7DYMJTPXwBbTFB1YnBXSExzSkU/view?usp=sharing).
* Computer with some tools installed:
  + Scratch (https://scratch.mit.edu/)
  + PyCharm (<https://www.jetbrains.com/pycharm/>)

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