BLOCK LOGIC PUZZLE

Age: 9-13 years

Type: Offline (to be completed without a computer or internet)

Curriculum Links to: Maths

Computational Thinking Concepts & Approaches: Pattern matching and logical thinking

---

Introduction

If you enjoy logic puzzles and are good at them, you will probably enjoy computer science. Being able to think logically is essential to computer scientists and thinking logically is just a skill like any other that can be learnt. It just takes practice, and doing puzzles is a fun way to develop the skill!

In this offline project, you will learn how to solve a block logic puzzle.

What you will learn

Pattern matching and logical thinking

Block logic puzzle

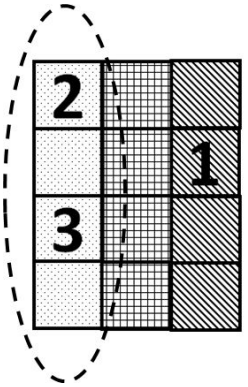
Rules

A block logic puzzle involves filling a grid with numbers using specific rules that we will explain below. Different areas of the grid are marked out using different patterns in a block logic puzzle.

There are two rules that you must keep in mind when trying to solve a block logic puzzle -

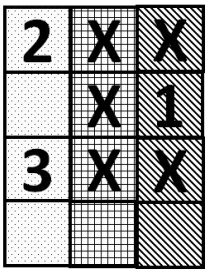
Rule 1 - Each area with the same pattern must contain the numbers from 1 up to the number of squares in the area.

For example, the leftmost area in the puzzle with the pattern  consists of 4 blocks so these blocks can contain numbers 1,2,3 and 4 only.

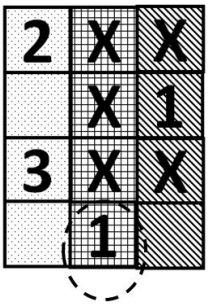


Rule 2 - You cannot write a number next to the same number any direction, whether horizontally, vertically or diagonally.

So in the grid, the fact that there is a 1 in the block in the rightmost area means there cannot be a 1 in any of the 5 squares surrounding it.The blocks where 1 cannot be filled are marked with **'X'.**



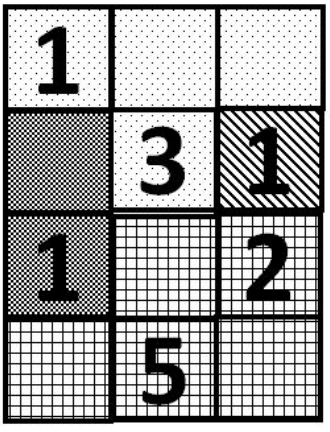
Now, we can confidently put the number 1 in the empty block with the pattern  .



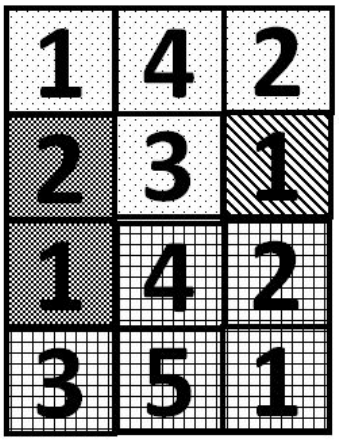
Solve

Using the two rules explained above, solve the following block logic puzzle!

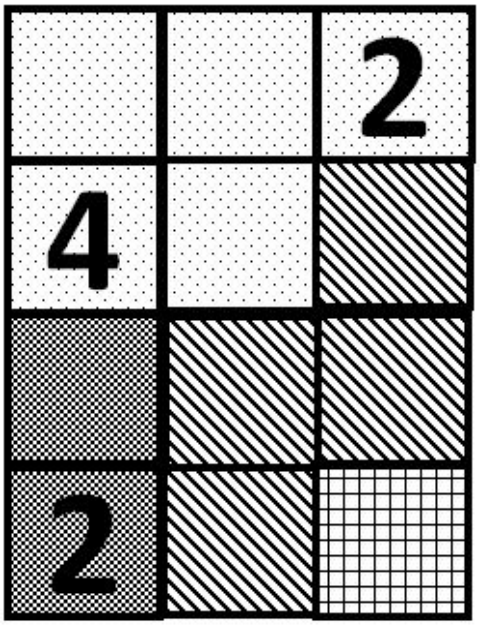
Rule 1 - Each area with the same pattern must contain the numbers from 1 up to the number of squares in the area.
Rule 2 - You cannot write a number next to the same number any direction, whether horizontally, vertically or diagonally.



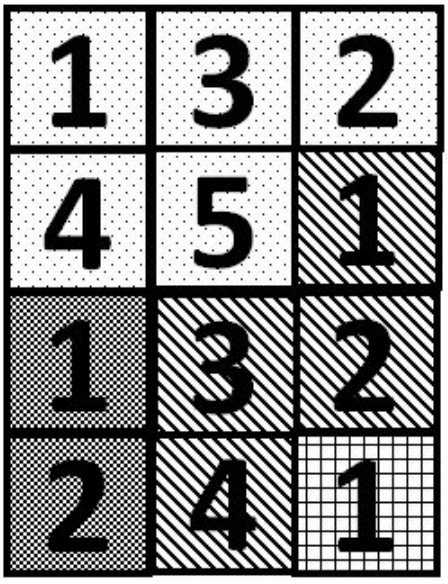
Here is the solution for the above block logic puzzle -



Now let’s try a slightly harder block logic puzzle!



Solution



This activity was originally created by Barefoot Computing - https://www.barefootcomputing.org/