HIVE 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 deduction

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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 cut 'Hive' logic puzzle.

What you will learn

In this offline project you will learn about pattern matching and deduction.

Cut hive puzzle

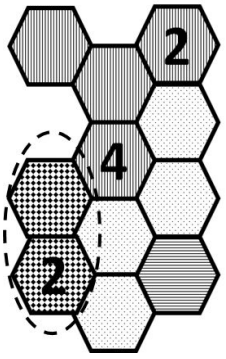
Rules

A Cut Hive puzzle consists of a block of hexagons which look like a hive. Different areas of the 'hive' are marked out using different patterns.

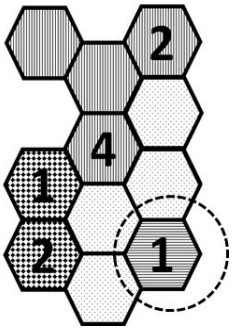
There are two rules that you must keep in mind when trying to solve a hive puzzle -

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

For example, the leftmost area in the puzzle with the pattern  consists of 2 hexagons so fill those hexagons with the numbers 1 and 2 only.

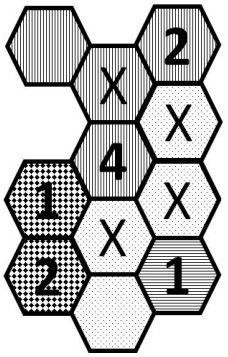


The rightmost area in the puzzle with the pattern  is a single hexagon, so it must be filled with the number 1.



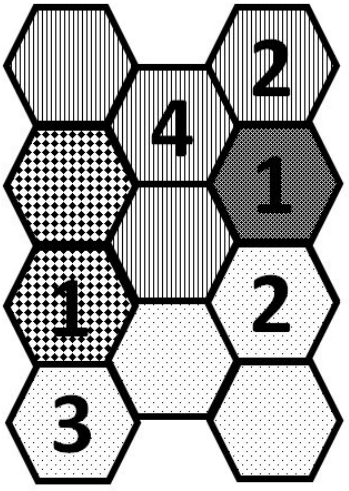
Rule 2 - No number can be next to the same number in any direction, along a shared edge.

So in the grid, because there is a 4 in the middle means there cannot be a 4 in any of the 4 empty hexagons surrounding it. The hexagons where 4 cannot be filled are marked with **'X'.**

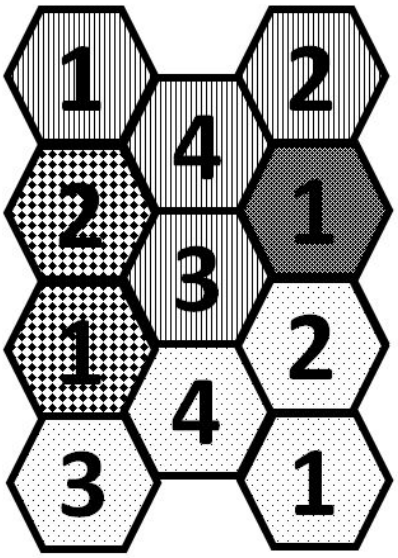


Solve

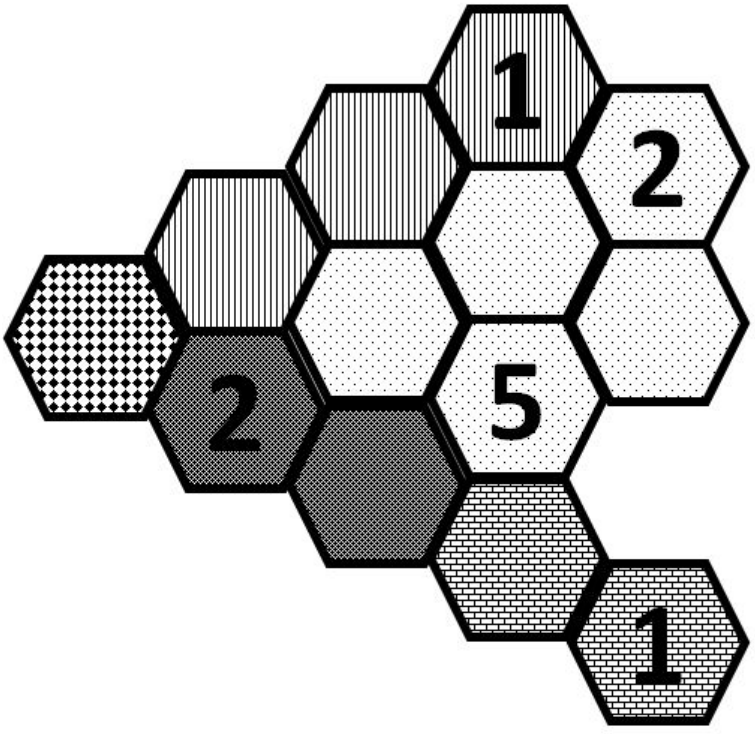
Using the two rules, solve the following hive puzzle!



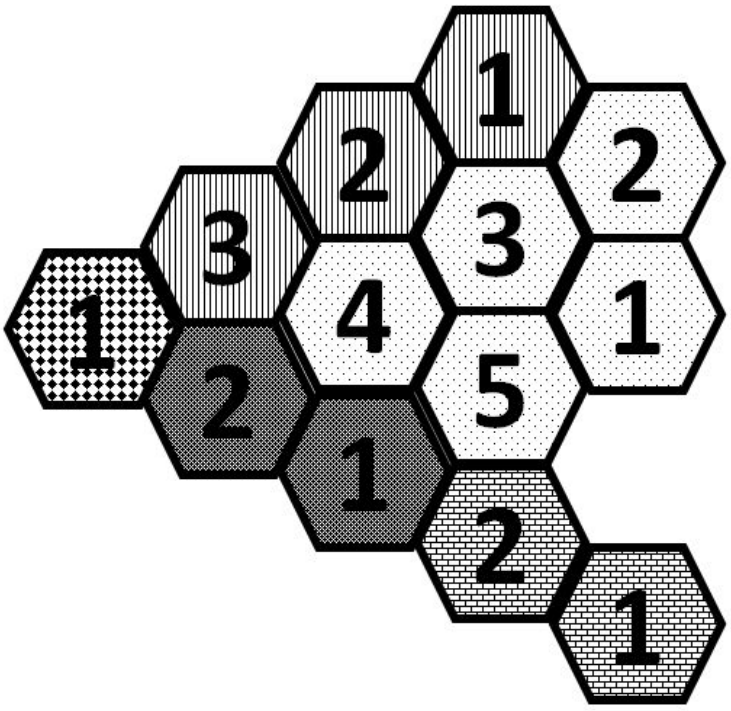
Here is the solution for the above puzzle



Now let’s try a slightly harder hive puzzle -



Solution



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