

CS3101 - COMPUTATIONAL THINKING LAB

(Week 3 – 05.10.2023)

PATTERN MATCHING

I. Solving Problems through number Hive Puzzles

Hive puzzles, simple logic puzzles that involve filling a hexagonal ‘hive’ with numbers so that no number appears next to itself. See how by deriving new general rules that extend the rules of the puzzle you unlock the power of pattern matching.

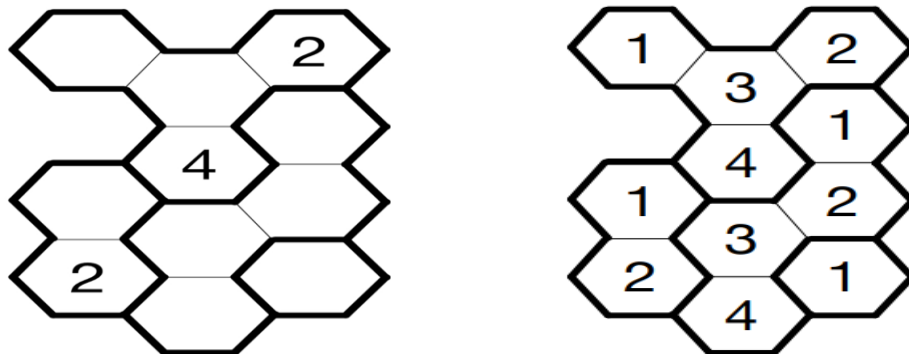
Instructions:

A Cut Hive puzzle consists of a block of hexagons, with different areas marked out using thicker lines. There are two rules that must hold of a completed block.

1) Each area must contain the numbers from 1 up to the number of hexagons in the area. For example, the topmost area in the puzzle below consists of 4 hexagons so those hexagons must be filled with the numbers: 1, 2, 3 and 4 with no repeated numbers. If the area has two hexagons, like the one bottom left below, then it must be filled with the numbers 1 and 2.

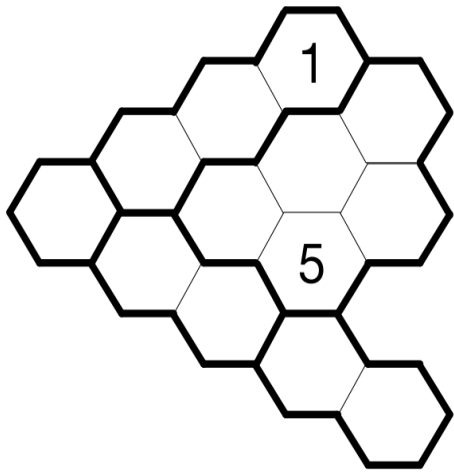
2) No number can be next to the same number in any direction, along a shared edge. So in the grid below, the fact that there is a 4 in the middle means there cannot be a 4 in any of the 5 hexagons surrounding it.

Sample Example:



Solve the Puzzle:

Question 1:



Question 2:

