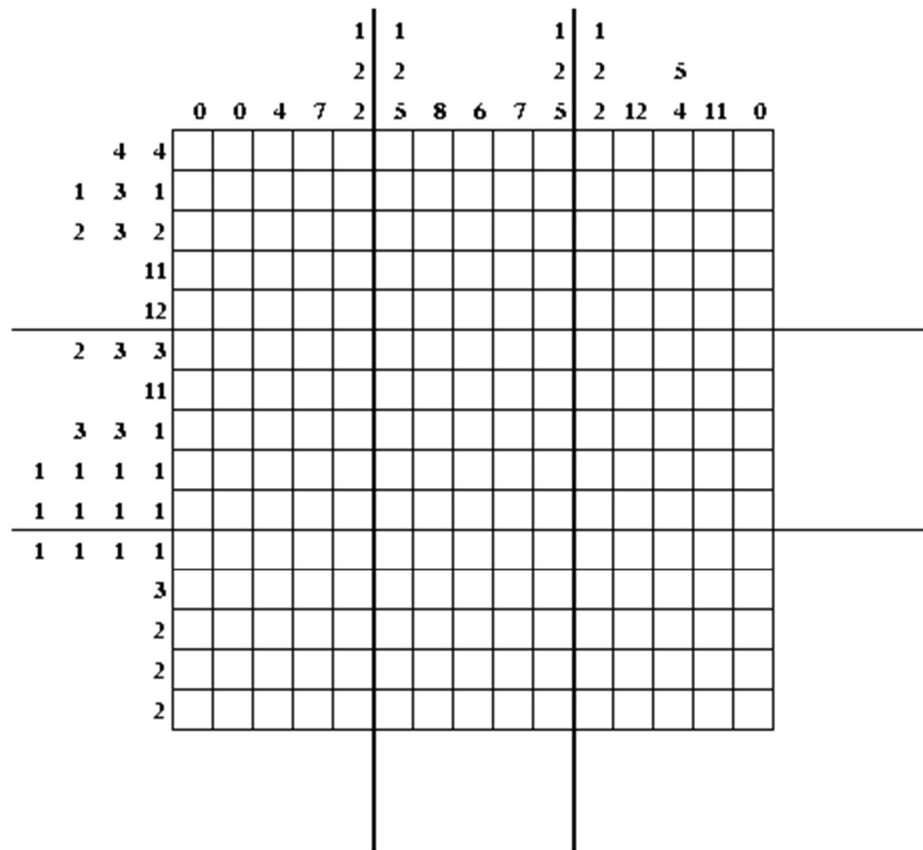


DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
FIRST SEMSTER B.E CSE
COMPUTATIONAL THINKING MIDTERM EXAM
BATCH: Q **TIME: 1 1/2 HOURS**

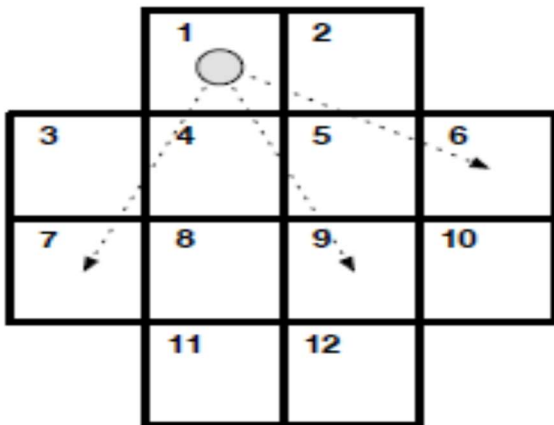
1. The following puzzle uses an encoding of a picture where the aim is just for you to have fun while testing your logical skills. It only uses 57 numbers to store a 15x15 picture.



The numbers on each row (or column) tell you the number of black cells in the row (column), in each group of black cells. So if the numbers next to a row are 2,4,5 it means that row has a block of 2 black cells, a block of 4 black cells and a block of 5, in that order. Each block is separated by one or more white cells. Columns are encoded in the same way. Find the picture.
 (10)

2. A single chess Knight is able to move on the small cross shaped board below. A Knight can move two spaces in one direction and then move one square at right angles, or vice versa, as shown. It jumps to the new square without visiting any in between, and must always land on a square on the board. Find a sequence of moves that starts from Square 1, visits every square exactly once and finishes where it started.

10 marks



Write an algorithm for the knight moves. (5 marks)