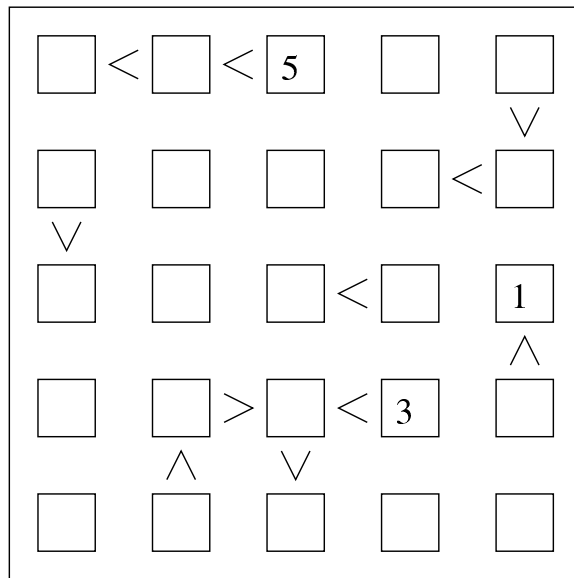


CS2104: Introduction to Problem Solving, Fall 2016
Homework Assignment 6
Due at 8:00am on Friday, September 30
60 Points

1. Solve the following cryptarithmic problem. The standard rules apply (no leading 0, a given letter is replaced by a digit consistently, etc.).

$$\begin{array}{r}
 A\ B\ C\ D\ E \\
 +\ B\ C\ E\ D \\
 \hline
 F\ A\ D\ D\ B
 \end{array}$$

2. The following is a type of puzzle sometimes called a “Futoshiki”. Each box is filled with a digit from 1 to 5, such that every row and column contains one of each such digit. The puzzle starts with a few boxes filled in for you. There are also less than (<) and greater than (>) constraints noted on some of the boxes. Fill in the boxes in a way that meets all of these requirements.



3. The following is a type of puzzle sometimes called a “Kakuro” and sometimes called “Cross Sums”. Fill in the empty boxes with digits (1–9). The numbers indicate what the adjacent horizontal or vertical boxes must sum to. You may never repeat a digit in any given sum.

			27	11			10	25
	11	8			25	7	11	
43								
23				15				
	10	7				13		
11			20				15	17
26					18			
37					16			
13				11				

4. Below you will see a grid with some “open” (white) squares. At the bottom, you can see two “pieces”, one which is “T” shaped (that covers 4 squares) and one that is a line 4 squares long. The pieces can be rotated, so, in a sense, there are six possible pieces. The problem is to cover all the open squares with copies of the pieces, without overlapping any of the pieces used in the cover.

