2) (10 pts) ALG (Heaps)

a. (3 pts) Fill in the array representation of a heap that meets all of the following conditions:

i. The minheap contains exactly eight integer values, without any duplicate values.
ii. The minheap does *not* contain the value 14.
iii. Inserting 14 into the minheap would cause us to incur the **best**-case possible runtime for insertion.

Note: Index 0 is omitted because in the traditional storage of a heap using an array, that index is not used.

Index	1	2	3	4	5	6	7	8
Value								

b. (3 pts) Fill in the array representation of a heap that meets all of the following conditions:

i. The minheap contains exactly eight integer values, without any duplicate values.
ii. The minheap does *not* contain the value 98.
iii. Inserting 98 into the minheap would cause us to incur the **worst**-case possible runtime for insertion.

Note: Index 0 is omitted because in the traditional storage of a heap using an array, that index is not used.

Index	1	2	3	4	5	6	7	8
Value								

c. (4 pts) Is it possible to draw a single minheap that simultaneously meets all of the conditions given in parts (a) **and** (b) of this problem? If so, draw such a minheap. If not, explain why not. If you're giving an explanation, be brief and clear, but also complete.

If possible, fill in this table, if not, explain why it's not possible below the table and leave it blank:

Index	1	2	3	4	5	6	7	8
Value								