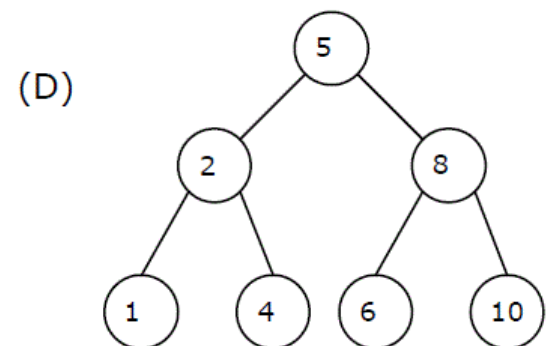
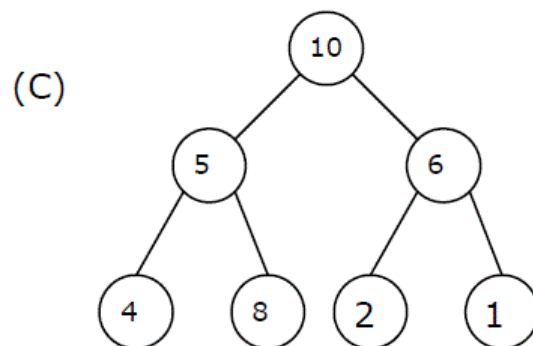
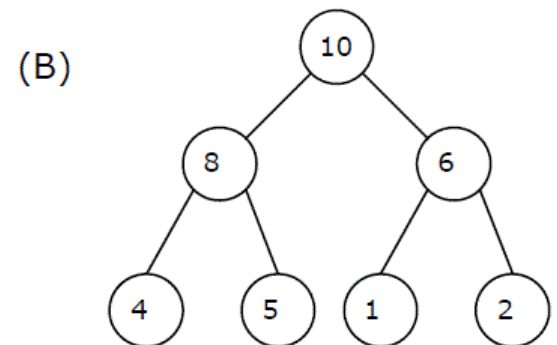
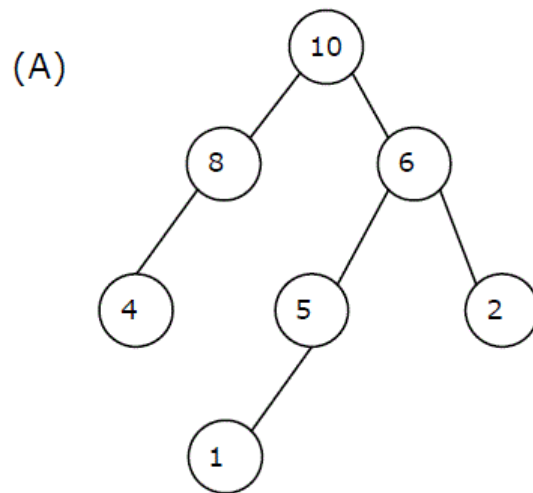


Question - 1
max-heap

SCORE: 5 points

A max-heap is a heap where the value of each parent is greater than or equal to the values of its children. Which of the following is a max-heap?
hint: max-heap is an array representation of a heap-ordered complete binary tree.



- ☐ A
- ☒ B
- ☐ C
- ☐ D

Question - 2
binary heap

SCORE: 5 points

An array consists of n elements. We want to create a binary heap using the elements. The time complexity of building the heap will be:

- ☐ $O(n^2)$

- ☐ $O(\log n)$
- ☒ $O(n \log n)$
- ☐ $O(n^2 \log n)$

Question - 3
data structure

SCORE: 5 points

A Binary Heap can be used as the data structure for a _____?

- ☐ Stack
- ☒ Priority Queue
- ☐ A decreasing order array
- ☐ All of the above

Question - 4
Heap Sort

SCORE: 30 points

heapsort: please implement the TODOs in *sort* and *sink* methods.
hint: please use the natural order.