

EECS 281, Week 3: Wednesday

Heaps

Suppose that seven values are pushed into an empty maximum priority queue binary heap in the following order:

10, 8, 7, 18, 29, 6, 17

What would the array representation of the heap look like after all seven values are inserted?

Draw the tree representing the heap after each insertion.

What is the array representation of the heap after calling `removeMaxElement` twice?

Draw the tree representing the heap.

EECS 281, Week 3: Wednesday

Pairing Heap

size

maxElement

meld

removeMaxElement

increaseKey

insert

updatePriorities

EECS 281, Week 3: Wednesday

Disjoint Set

Definition:

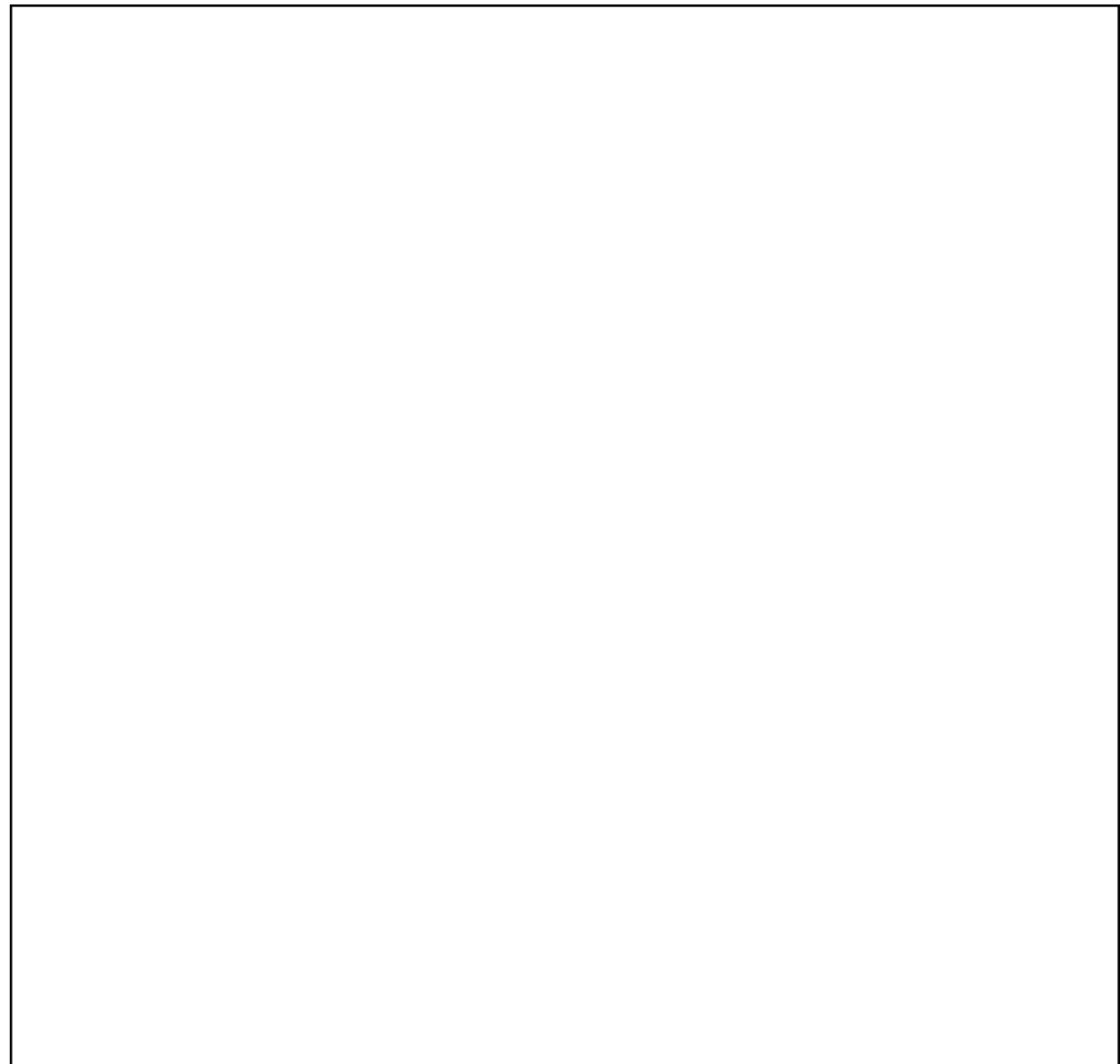
Operations:

EECS 281, Week 3: Wednesday

FibonacciIterator

Implement `FibonacciIterator`, a class that represents an input iterator that generates Fibonacci numbers. Specifically, implement at least this public API to your class:

- `FibonacciIterator()`, a default constructor that will start by generating the first fibonacci number.
- `FibonacciIterator(size_t n)`, a non-default constructor that will automatically advance to n th fibonacci number.
- Operator `*`, which returns the next Fibonacci number.
- Operator `++`, which advances the iterator to the next Fibonacci number.
- Operator `!=`, which compares two iterators.



Continued on the next page...

```
int main() {  
  
  
  
  
  
  
  
  
  
}
```