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COP3530
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LPT program

Testing:

Step 1- testing heap implementation (starting at index 1)

Test Case	Output	Expected	Correct?
inserting into an empty heap	when calling top, it displays the element inserted	inserts into array at index 1	yes
insert another element into the heap and call top.	first element input into list is still top	outputs the min/max of the array. (inserts new element into back of the array)	yes
swap two elements in array	swapped and call top to get the second element inserted	the elements should swap positions	yes
check reOrder function by pushing elements into min tree and testing top gives min element	returns smallest element when using a min heap and returns largest element when using a max heap	heap is implemented correctly according to its preference (min/max)	yes
check pop function by popping and then testing if top gives new min element	returns new largest/ smallest element	gets rid of root element, or deletes the min/max element.	yes
pop from empty heap	throws and catches appropriate error message	outputs error message	yes
insert elements and then pop them all off	catches appropriate error message	outputs error message	yes

Step 2- testing HBLT implementation

Test Case	Output	Expected	Correct?
insert into empty tree	when call top, the inserted element is displayed	inserts one element into tree as the root	yes
insert more than one element while retaining min tree	inserted 1, then inserted elements larger than 1, called top. 1 was output	inserts all elements into tree keep min element as root.	yes

Test Case	Output	Expected	Correct?
pop elements to get new min	reveals correct min value	pops root and recreates min HBLT tree	yes
pop from empty	returns error message	should not be able to pop from an empty tree	yes
push many elements into tree and use breakpoints to test validity of tree	tree organized correctly	tree is left-biased and min	yes
pop from filled tree until popping from empty	pops correctly, leaving accurate tree behind. popping from empty send an error message	should not be able to pop from an empty tree	yes

Step 3- test/run LPT program