CS 421 HW6 (30 pts Due on October 20, 2023, by 11:59 pm)

1. **Type your answer clearly using the appropriate tool.**
2. **If you need to write by hand, make sure that it is clearly readable.**
3. **You need to have ONLY one file to submit. Your file MUST have your name on it.**
4. **Name of the file must be in the form of LASTFISTNAMEHW#. For example, I was a student and submitting HW1 solution, then file name of my HW1 would be AticiMustafaHW1**
5. **You must show all your work clearly for full credit.**
6. **If any of the above conditions is not satisfied, you will lose %20 of your grade.**
7. (10 pts) Construct binary tree min-heap for the following key set. If you are using any algorithm other than the given in the class, you must provide the algorithm and its reference. {10,3,2,11,45,56,34,23,4,7,20,7,9,12}
8. (10 pts) Construct binomial tree min-heap for the following key set {10,3,2,11,45,56,34,23,4,7,20,7,9,12}
9. (10 pts) Main purpose of heap is to remove minimum or maximum key valued object from the heap. But sometime, we may need to remove an object from the heap when its key is given. For example, a job in the heap is cancelled and will not be performed. How can you delete a node in a binomial heap: List the steps that you can perform on Heap T with node x. Demonstrate how the node indicated by **x** can be deleted by your algorithm. What would be the complexity of your solution?

A diagram of numbers and a line

Description automatically generated