Date: / / object:

Ch 1) exercises

1.1) $n = 128$, steps $= \log_2 n$

$= \log_2 128 = 7$ #

1.2) $n = 256$, steps $= \log_2 256 = 8$ #

1.3) $O(\log n)$ fastest way, sorted nums in order (A, B, C

1.4) $O(n)$ → numbers are not sorted

1.5) $O(n)$ → every person

1.6) $O(n) \Rightarrow$?? didn't understand explanation from answers

exercise

2.1) list ⇒ because it's easier to do Insertions and deletions with linked lists

2.2) list

2.3) array

2.4) the down sides of an array :-

⇒ takes a very long time to Insert / delete elements

⇒ when I add new users I'll have to put it in the middle of the array and move down all the next users and possibly have to relocate the entire array if I run out of memory

2.5) The new data structure would be faster

⇒ arrays allow Random access making it quicker to skip to any letter in one step

⇒ linked lists are better for Insertions / deleti

Exercise (Ch 3)

3.1 ⇒ the main function "Greet" has another function "Greet2" within it.

⇒ There could be other functions in "Greet"

⇒ There is space allocated for each functi to store the variable

⇒ once "Greet2" is done, we go back to "Greet" and continue looking for other functi

3.2 ⇒ the code keeps going on forever so the stack keeps piling up until eventually stack overflow happens and the program exits or we exit using [ctrl + C]