Homework 10 - balanced

Prof Bill - Mar 2020

Due: **Mon Mar 16, 2020**

thanks...yow, bill

---

1. Create 1 side of 1 page of notes on balanced trees: 2-3-4 trees, heaps, and red-black trees. Include the rules for each structure and how to do search and insert.
   - Use **only** your notes to complete the following problems
   - Bring your notes to class Monday; we'll do more examples
   - Optional - after you're done, you can double-check your work using our favorite visualization site: www.cs.usfca.edu/~galles/visualization/Algorithms.html

2. Insert the following numbers into a **2-3-4 tree**. Thank you: www.random.org.

Here are your random numbers:

109	65	8	151	88	176
22	32	169	122	48	88

Timestamp: 2020-03-12 15:01:35 UTC

3. Insert these names into a **red-black tree**.

Just use the first names, ok.

Thank you: random-name-generator.info

Random names

1. Lee Watkins
2. Maria Coleman
3. Sonya Sullivan
4. Olga Maldonado
5. Van Santos
6. Alton Roberts
7. Jesus Rowe
8. Cedric Pope
9. Erin Mclaughlin
10. Nicole Beck

4. Insert these cities into a **heap**. Thank you: www.randomlists.com/random-us-cities

5. Show your final heap from the cities problem above as an array.