

Today: hash tables (pt. 2), §§ 20.*; synthesis and review.

Next class: Midterm exam 1.

Reminders: Use newsgroup regularly. Work on portfolios. Homework.

1. List the members of your group below. Underline your name.

2. Consider a hash table with 16 slots, used for storing 8-bit unsigned integers using the quadratic probing strategy and the hash function $h(x) = x \bmod 16$.
Determine the number of probes made for inserting each of the following keys, in given order, into the hash table. Depict the final state of the table.
2, 6, 34, 162, 3, 51, 68

3. Determine the number of probes made when searching for each of the following keys in the final state of the hash table of Question 2.

147, 162, 144, 33

4. Determine the number of probes made for deleting each of the following keys, in given order, from the hash table of Question 2. Depict the final state of the table.

68, 2

5. ★ Is it possible for that quadratic probing fails to find an open slot for a key even though the hash table is

- (a) not full?
- (b) less than half-full?

Justify your answers (with a proof, example, etc.).