Opening Discussion

What did we talk about last class?
Do you have any questions about the assignment? Remember that the design and test code is due today.

Universal Hashing

This is a method by which the hash function is randomized for every new hash. This guarantees that the average performance over many runs in always $O(1)$.
However, the math involved for doing it well involves number theory so we aren't going to work on that in this course.
Perfect Hashing

- All the techniques we have discussed give $O(1)$ average behavior, but they can be $O(n)$ worst case.
- If the data in the hash is static (it doesn't change after some point), then we can do perfect hashing which has worst case performance of $O(1)$.
- For this we use a hash of hashes and have universal hash functions at both levels.

Code, Code, and more Code

- Now we want to spend a lot of time looking at code in C++ for doing the things that we have been talking about. We want to look at the completed hash that uses linking and then write a hash that uses open addressing.

Minute Essay

- Which type of hash, of the ones that we have covered, do you intend to use for assignment #3? Why?
- Please start reading CLR 253-272 for next class.
- Quiz #2 will be given next class and assignment #2 is due on that day.