

Lecture 42: Review

Last time:

1. Course Reviews, exam location, Saturday office hours.
2. Complexity of Bubble Sort
3. Recursion
4. MergeSort

Today:

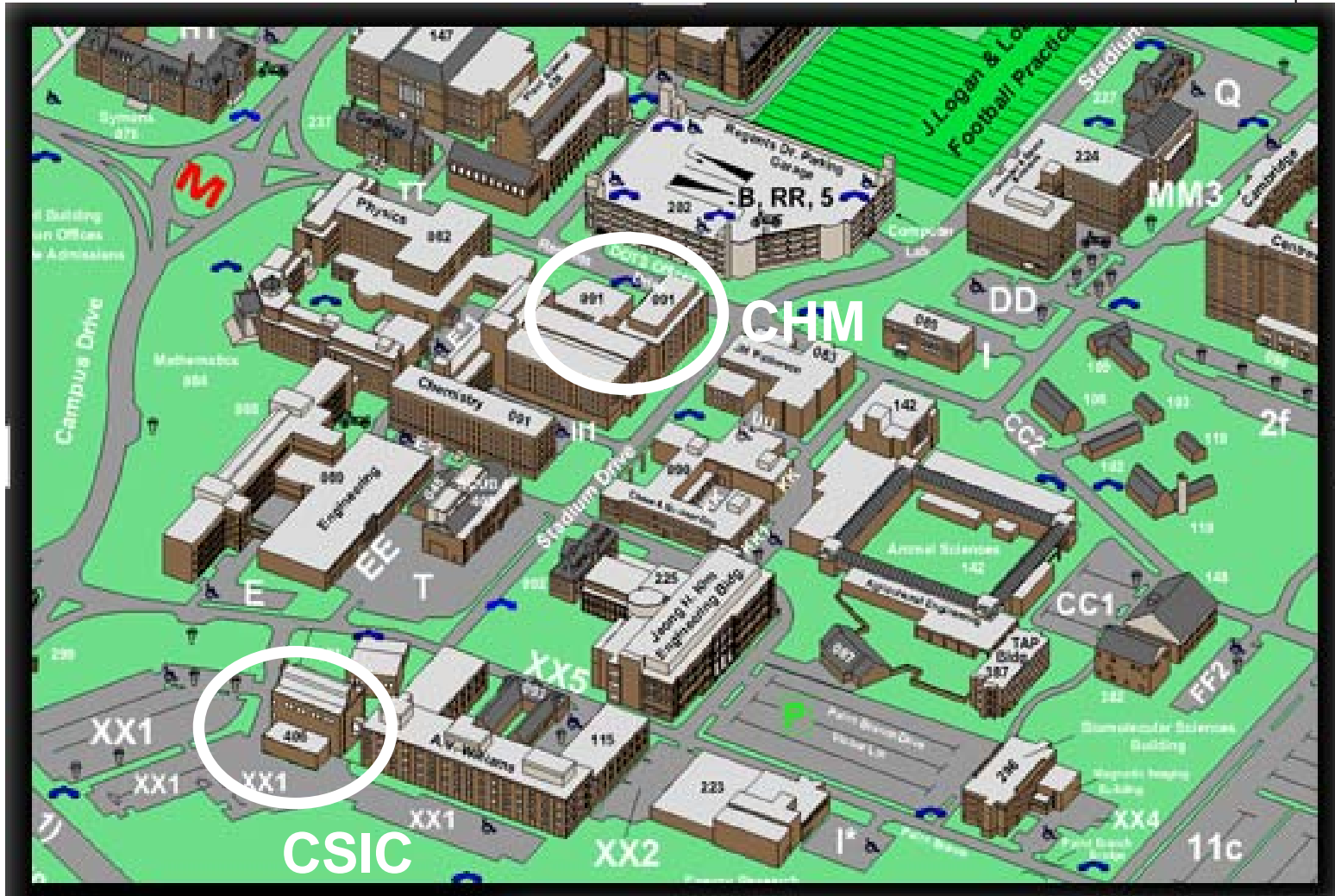
1. Project #8 due Thursday at 11 pm!
2. Final exam info
3. Review



Final Exam

- Monday 5/14, 4-6 pm in 1407 CHM
- Cumulative
- Closed-book, closed neighbor, open mind
- Study!

Where's CHM?



Bonnie Dorr (adapted from Rance Cleaveland)

Other Announcements

- www.courses.umd.edu/online_evaluation/
IMPORTANT: Please fill this out for your instructor/professor AND for your TA's (There are two different online evaluations for you to fill out.)
- There will be some office hours on Saturday (instead of Friday) this week.

Final Review: What Is / Are ...

- Hardware?
- Software?
- CPU?
- Main memory?
- Bit / byte / word?
- Variable names
- Memory address?
- Operating system?
- Application?
- Machine / assembly languages?
- Compilers / interpreters?
- Java Virtual Machine?
- Primitive / built-in types?
- String?

Final Review: What Is / Are ...

- Expressions?
- Control flow?
- If / else / else if?
- Blocks?
- Scanner?
- Logical operators?
- Short-circuiting?
- Loops?
- final?
- Type casting / upcasting / downcasting?
- Software lifecycle?

Final Review: What Is / Are ...

- Objects?
- Classes?
- Heap?
- Stack?
- Reference-typed variable?
- Pseudo-code?
- Object equality?
- Aliasing?
- Constructors?
- Overriding?
- Static / public / private?
- Stack frame?
- Package?

Final Review: What Is / Are ...

- JUnit?
- mutable objects / immutable objects?
- switch?
- break?
- default?
- case continuation?
- continue?
- arrays?
- array indexing?
- default values of instance variables?
- length?
- `ArrayIndexOutOfBoundsException`?
- Array aliasing?

Final Review: What Is / Are ...

- Array initializers?
- Array promotion during argument passing?
- Reference / Shallow / deep copying of arrays?
- Privacy leaks?
- Polymorphism?
- Interfaces?
- `implements`?
- Differences between interfaces, classes?
- Wrappers?
- `<bexp> ? <exp1> : <exp2> ?`
- algorithms?
- precondition?
- postcondition?

Final Review: What Is / Are ...

- API?
- `Foo.java` / `Foo.class`?
- `javac`?
- `java`?
- `ClassPath`?
- command-line arguments?
- Javadoc?
- Javadoc tags?
- two-dimensional arrays?
- ragged arrays?
- rectangular arrays?
- filenames and class names?

Final Review: What Is / Are ...

- packages?
- subpackages?
- package hierarchy?
- fully qualified name?
- `import`?
- `package`?
- non-public classes?
- `.jar` files?
- exceptions?
- throwing / handling exceptions?
- `try` / `catch` / `finally`?
- stack trace?
- exception propagation?

Final Review: What Is / Are ...

- Collections?
- Stack / ArrayList?
- Iterators?
- `ConcurrentModification` exception?
- `StringBuffer`?
- Inheritance?
- Composition?
- “is-a” and “has-a”?
- Derived class / subclass / base class superclass?
- `extends`
- Subclass polymorphism?
- `super`?
- Method overriding?
- Early vs. late binding?
- `final`?

Final Review: What Is / Are ...

- Shadowing?
- `public / private / protected / package` visibility?
- Object?
- Abstract classes / methods?
- Upcasting / downcasting?
- `getClass()`?
- `instanceof`?
- Cloning?
- Multiple inheritance?
- Interface hierarchies?
- Linear search?
- Binary search?
- Theta, Big-oh, and asymptotic worst-case time complexity?
- Bubblesort
- Recursion
- Mergesort?