CSCI 162 – Test 1 Review

General Notes for Midterm Examination:
- **No** multiple-choice
- **No** fill-in-the-blank
- Short answer and coding questions
- Partial credit awarded
- Three pages

Material

Arrays
- Declare/Access/Out-of-Bounds
- `length`
- Limitations
- Multi-dimensional arrays

Objects and Classes
- What is an abstraction
- classes, constructors, fields, methods (mutator vs. access)
- shadowing (and the `this` keyword)
- `static` fields/methods vs member fields/methods
- value and reference semantics (primitives vs. non-primitives)
- `.toString()`
- `.equals()`
- `.clone()` and the `Clonable` interface – know for any type
- `.compareTo(E other)` and the `Comparable<E>` interface
- "diagram" classes and show what happens when we construct and/or clone

Software Engineering
- Definitions: data structures, algorithms
- 5 stages of Software Development
- Preconditions and Postconditions
- Contract
- Big-O notation and complexity

Collections
- `ArrayList<E>` (concept of, I will provide the interface)
- Generics and wrapper classes
- `IntArrayBag`