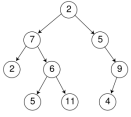


The “Bible” of APCS

1. Don't forget semicolons.
2. Watch out for variable setting issues.
3. Watch out for variable initialization.
4. Strings are immutable, other objects aren't.
5. Off-by-1 errors.
6. Whenever `iter.next()` is called, the iterator increments by 1.
7. Infinite loops – be wary.
8. High level casting.
9. ArrayList and for loops – be careful when adding/removing objects.
10. Make sure recursions have a terminating state.
11. Check endpoints in algorithms.
12. Watch out for static vs. non-static methods in classes.
13. Inheritance – make sure you know which method is being called. (`run()` vs. `super.run()`)
14. String comparisons: `a.compareTo(b) → ASCII(a) – ASCII(b)`
15. ASCII mini-table: null, numbers, uppercase, lowercase, symbols.
16. Make all variables in a class private unless specifically told otherwise.
17. Initialize all instance data in the constructor (except statics).
18. Object class – `toString()`, `equals()`, `hashCode()`, `notify()`, `wait()`
19. Useful Interfaces: `Comparable(compareTo())`, `Iterator(next(), remove(), hasNext())`
20. `Parent x = new Child(); ☺`
`Child x = new Parent(); ☹`
21. Abstract vs. Interfaces
22. Polymorphism – declare object outside of reference type declaration:

```
Parent x;  
if (foo == 1)  
    x = new Parent();  
else  
    x = new Child();
```
23. `final + static = permanent`
24. Public classes cannot be overridden to be more private.
25.  Height = 3, depth = 4.
26. ArrayList – no `removeLast()` method.
27. Interfaces can extend other interfaces.
28. “Depends on implementation” and “Depends on design” are banned phrases.
29. Must use `keySet()` method for maps to iterate (no `.iterator()`).
30. The `&&` (Boolean AND) operator has a higher precedence than the `||` (Boolean OR) operator.
31. When using polymorphism:

```
Parent x = new Child();  
x.method();
```

Method must be in Parent where Child extends Parent and both are classes. If the method is overridden by class Child, then the method in Child is called. If the method is not overridden in Child, then Parent's method is called.