

CSC 360 - Software Development with AI

Below is a list of Java concepts that you should be familiar with. You should be able to trace the execution of code using these concepts, identify errors when not used correctly, and to read and understand code that uses them.

1. Printing text and values of variables/objects
2. Declaring and initializing variables
 - a. Primitive types: *int*, *double*, *boolean*, *char*
3. Declaring and instantiating objects
 - a. Strings, arrays, ArrayLists, and user-defined objects
4. Common String methods (*equals*, *charAt*, *toUpperCase*, *indexOf*)
5. *For*, *for-each*, and *while* loops
6. Branching using conditional statements (*if*, *else if*, and *else*) and *switch* statements
7. Methods, including call by reference and call by value
8. User-defined classes
 - a. Public vs private
 - b. Static vs not static
 - c. Constructors
 - d. *this* keyword
 - e. *@Override*
 - f. *toString* method
9. Inheritance, abstract base classes, abstract methods, interfaces
10. UML diagrams
 - a. Specifying classes and methods
 - b. Composition vs Aggregation vs Dependence