

CISC124 – Today's Topics

- Java API
- More About Types
- Arrays
- Reusing Common Classes (Example)

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CISC124 – Java API

- Module
 - Set of packages common to an application area:
 - Foundational (java.base)
 - GUI development (java.desktop)
 - Internet access (java.net.http)
 - Database access (java.sql)
 - Javadoc tool programming (java.javadoc)
 - Etc.
 - Core module → java.base

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CISC124 – Java API

- Package
 - Grouping of related types:
 - Classes
 - Interfaces (Cloneable, etc.)
 - Enumerations (enum demo {NONE, OPTION, EXIT})
 - Annotations (@Override, @Deprecated, etc.)
 - Access protection and namespace management
 - Prevent naming conflicts
 - Controlled access
 - Examples: java.lang, java.util, java.io, java.math
 - Foundational package → java.lang

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CISC124 – Java API

- Classes in java.lang package
 - Object
 - System
 - Thread
 - String
 - Wrapper Classes (Boolean, Character, Integer, Float, Double)

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CISC124 – More About Types

- More Primitive Types
 - boolean (true, false)
 - char (Unicode)
 - var
- Class Types (Objects: Class Instances)
 - Instance members (fields, methods)
 - Class members (static fields, static methods)
- Type inference → var keyword
 - var chameleon = 3; // chameleon is an integer
 - var chameleon = "animal" // Now is String

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CISC124 – More About Types

- Comparing variables with operators == (equal) and != (not equal)
 - Primitive types (boolean, int, float, etc.)
 - int x1 = 20, x2 = 20
 - {x1 == x2} compares 20 and 20 (i.e., values)
 - Result is true
 - Class types (Room)
 - Room r1 = new Room("Stauffer-C", 1, "Conference", 50);
 - Room r2 = new Room("Stauffer-C", 1, "Conference", 50);
 - {r1 == r2} compares addresses (references) of objects r1 and r2
 - Result is false

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Arrays		
0	1	-----n
length = n + 1		
<ul style="list-style-type: none">▪ Arrays of primitive types<ul style="list-style-type: none">▪ <code>int[] skillLevel = new int[10];</code>▪ <code>Int[] skillLevel = {1,2,3,4,5,6,7,8,9,10};</code>▪ Arrays of classes<ul style="list-style-type: none">▪ <code>Room[] myRooms = new Room[5];</code>		
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