



CMSC 131

Object-Oriented Programming I

Review I

**Dept of Computer Science
University of Maryland College Park**

This material is based on material provided by Ben Bederson, Bonnie Dorr,
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Style Exercise for Poker/Marquee

- If you have not complete these exercise in lab you must do it today
- Notice your project grade is not complete unless you have done these exercises
- Contact your teaching TA for assistance/additional information

Final Exam

- Information available on class web page
 - It includes practice material
 - **We do not post old final exams, sorry!**
- Make sure you know the day, time and location

Review (Variables/Methods)

- Java types
- Variables
 - Types – Primitives and reference
 - Locals
 - What is their scope?
 - Parameter
 - When are they created?
 - When are they destroyed?
 - Parameter vs. argument
- Methods
 - Types – static and non-static
 - How to call them
 - When to define a method as static or non-static
 - What is an auxiliary method?
 - Does order of method definition matter?
 - Can static method call non-static?

Review (Input/Output)

- What is import?
- `System.out.println`
- `Scanner`
 - `next`
 - `nextInt`
 - `nextDouble`
- `JOptionPane`
 - `showMessageDialog`
 - `showInputDialog`
- `Integer.parseInt`
- `Double.parseDouble`

Review (Iteration)

- Types
 - while loops
 - do whiles
 - for loops
- When you use while, do whiles, for loops
- Nested loops
- break and continue in loops

Review (Conditionals)

- If statement
- Cascaded if statements
- switch
- Ternary operator ? :
- Short-circuiting with boolean expressions

Review (Memory Organization)

- Memory maps
- What is the stack?
- What is the heap?
- Where do static final values reside?
- What the stack makes possible?
 - Creating and destroying local/parameters

Review (Classes)

- How to define classes
- What are instance variables?
- What are the default values of instance variables?
- What is the difference between a class and an object?
- Where are objects created?
- When are they destroyed?
- What is the garbage collector?
- How many classes can be in a Java file?
- What is public, protected, package, private access?
- Can every class has a main?
- What are command line arguments?

Review (Reference, Shallow, Deep Copy)

- Example: Car.java

Review (Arrays)

- Are arrays objects?
- One-dimensional array
 - Defining them
 - Initialization
 - length property
 - For loops and arrays
- Two-dimensional arrays
 - Defining them
 - Initialization
 - Length property
 - For loops and arrays