CMSC 131
Object-Oriented Programming I

Exceptions II

Dept of Computer Science
University of Maryland College Park

This material is based on material provided by Ben Bederson, Bonnie Dorr, Fawzi Emad, David Mount, Jan Plane
Overview

- Exceptions
- Password Example
Exceptions

- You can have multiple catch clauses
  - **Example:** Multiple.java
  - How do we know the exceptions thrown by the methods? By using the Java API

- **Throwing Exceptions**
  - You can throw exceptions using `throw`
    - Notice you can define your own exceptions and throw them
    - You can throw exceptions defined by Java
    - An exception can be rethrown
  - **Example:** Throwing.java

- **Important:** exceptions should be used for handling errors and not for implementing solutions to problems

- **Never leave the catch clause empty**
  - If you don’t know what to place, call `printStackTrace`
  - If you want code to compile, even though you have not implemented it, then use:
    ```java
    throw new UnsupportedOperationException("You must implement this method.");
    ```
Types of Exceptions (Honors)

- There are two types of exceptions:
  - Checked
    - We need to do something about them
    - We need to “catch” or “declare” them
  - Unchecked
    - We don’t need to do anything about them
- So far our examples have used unchecked
- Let’s see an example of code that requires handling a checked exception
- **Example:** Checked.java
  - What happens if you remove the try/catch block?
  - What alternative we have if we don’t want to provide a try/catch block
- We can define our own exceptions
  - Let’s define one
Validating Integer

- Let’s write a program that validates the user has entered a valid integer. Use `Integer.parseInt`, exceptions, and `JOptionPane`
- What happens when users select cancel?