CMSC 132: Object-Oriented Programming II

Callbacks

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Definition

Executable code passed as argument to other code

Approach

1. Higher-level code passes function as argument to lower-level code
   - In Java, pass object implementing interface
   - In C/C++, pass pointer to function

2. Lower-level code invokes callback function to perform desired task
Callback

**Motivation**
- Keeps code separate
  - Clean division between higher & lower-level code
- Promotes code reuse
  - Lower-level code supports different callbacks
- Supports event-driven programming
  - Lower-level code registers function as handler

**Examples**
- Timer
- Observer pattern → `Observer.update()`
- Visitor pattern → `Visitor.visit()`