CMSC 132: Object-Oriented Programming II

Callbacks

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Callback

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()