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

- Observer pattern ➔ Observer.update( )
- Visitor pattern ➔ Visitor.visit( )