

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( )`