

# CMSC 132: Object-Oriented Programming II

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## 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( )`