

# PHP and UML Overview

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# Representing Designs in UML

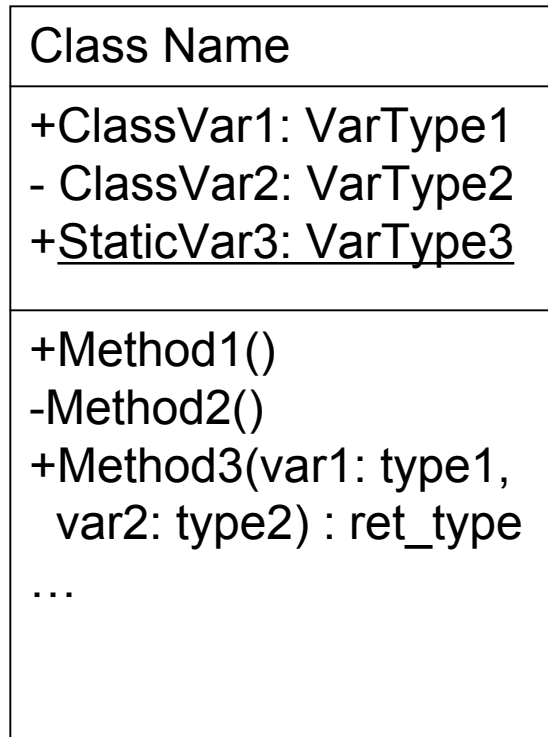
- The Unified Modeling Language (UML) is a set of diagram types
- Used to represent software designs
- Most commonly used diagram types are:
  - Structure diagrams
    - A static view of objects and their relationships
    - Inheritance, composition, dependencies
  - Sequence diagrams
    - A view of the dynamic behavior of software
    - Ordering of calls among class instances & their methods

# UML and PHP

- UML is designed to represent object-oriented languages
- PHP can be both object-oriented and page-oriented, with procedural code embedded in a page
- Requires some tweaks to UML to represent this correctly

# UML Structure Diagrams

- **Classes:**



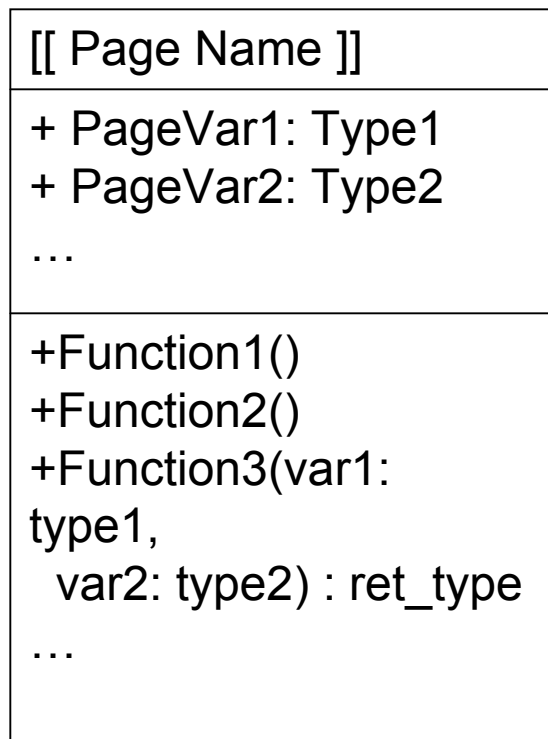
**Visibility** of variables and methods is indicated by putting + (visible) or – (private) before the variable or class name.

**Static** variables are indicated by underlining them

Can optionally indicate the **signature** (parameters) for methods, and the **return type** of a function.

# Representing PHP Pages

- **PHP Page:**



**Basic Idea:** represent a page using the same graphic element as classes (a rectangle)

To indicate this is a page, and not a class, put “[[“ and “]]” around page name (e.g., [[index.php]]).

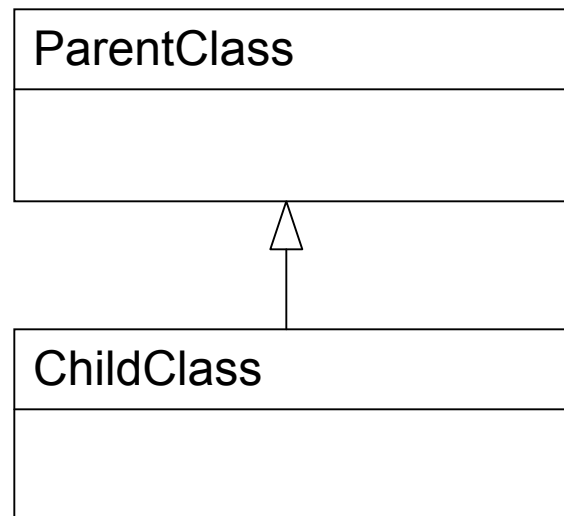
**Variables** represents those variables defined outside of functions on a page (page global variables).

**Visibility** of variables and functions is always public.

**Functions** represent those functions defined on the page. Classes defined on the page are represented as separate classes in the diagram.

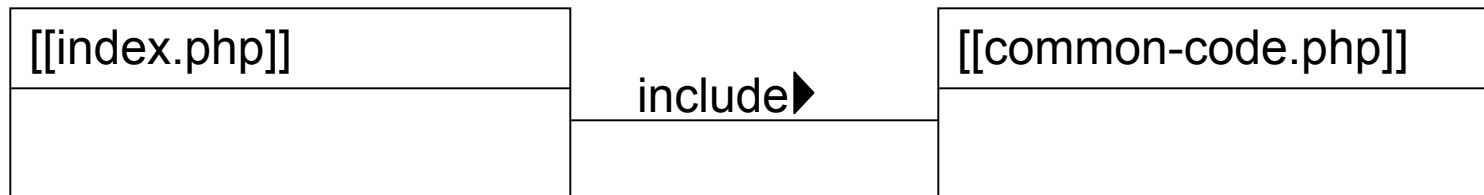
# Relationships

- Inheritance
  - A open arrow pointing to parent class
  - PHP pages cannot participate in inheritance relationships



# Relationships (cont'd)

- Association
  - In general, a semantically meaningful link between two classes
  - Represented with a line, with a label on top, with a closed arrow indicating the directionality of the relationship
  - For PHP pages, can use this to indicate “include” relationships among pages
    - Note: use only for PHP pages, not for PHP classes



Shows that index.php includes common-code.php.

# Relationships (cont'd)

- Aggregation (containment)
  - Represents the case where class instances contain one or more instances of other classes
  - Containment is typically referential, and indicates one instance has pointers to other instances
  - Used for class modeling in PHP
  - A PHP page might contain instances of PHP classes, but would not contain other PHP pages (use association to represent included code)



OR

