

week9

Hello, PHP!

- You've seen PHP in the server pset

```
1 <!DOCTYPE html>
2
3 <html>
4   <head>
5     <title>hello</title>
6   </head>
7   <body>
8     <form action="hello.php" method="get">
9       <input name="name" placeholder="Name" type="text"/>
10      <input type="submit" value="Say Hello"/>
11    </form>
12  </body>
13 </html>
```

```
1 <!DOCTYPE html>
2
3 <html>
4   <head>
5     <title>hello</title>
6   </head>
7   <body>
8     hello, <?= htmlspecialchars($_GET["name"]) ?>
9   </body>
10 </html>
```

What is PHP?

- PHP is a Hypertext Processor
- Server side scripting language
 - PHP is a programming language (unlike HTML, CSS – this sometimes shows up on the quiz)
- Can be combined with HTML
- Allows us to create dynamic webpages

Crash into PHP

- Declaring variables
 - No types (booooo) – PHP is dynamically typed
 - `$var = 3;`

Crash into PHP

- Array can be associative key-value pairs
 - You can think of arrays as actually hash tables or dictionaries (you might hear both terms)
 - `$my_array = ["key1" => "value1", "key2" => "value2"];`
 - `$my_array["key1"];`
 - But, you can still use arrays “normally” like in C
 - `$my_array = [1, 2, 3];`
 - `$my_array[0];`

Crash into PHP

- `==` vs `===` (huh?)
 - `==` converts types and then checks equality
 - `===` checks equality and same type
 - So `1 == "1"` is true, but `1 === "1"` is FALSE

Crash into PHP

- foreach loops
 - Great way to iterate over arrays

```
foreach ($array2 as $value) {  
    // do something  
}  
  
foreach ($array as $key => $value) {  
    // do something else  
}
```

Two ways to pass info between PHP and HTML

- GET
 - Information passed via the URL
 - example: ?name=Ezra
- POST
 - Passes data in the HTTP request body
 - This is “hidden”, but NOT secure

Example

```
<form action="action.php" method="post">  
  <p>Your name: <input type="text" name="name" /></p>  
  <p>Your age: <input type="text" name="age" /></p>  
  <p><input type="submit" /></p>  
</form>
```

```
Hi <?php echo htmlspecialchars($_POST['name']); ?>.  
You are <?php echo (int)$_POST['age']; ?> years old.
```

SQL Queries

- SELECT
 - Select values
- INSERT INTO
 - Insert new values into your table
- UPDATE
 - Update existing rows
- DELETE
 - Delete rows from table

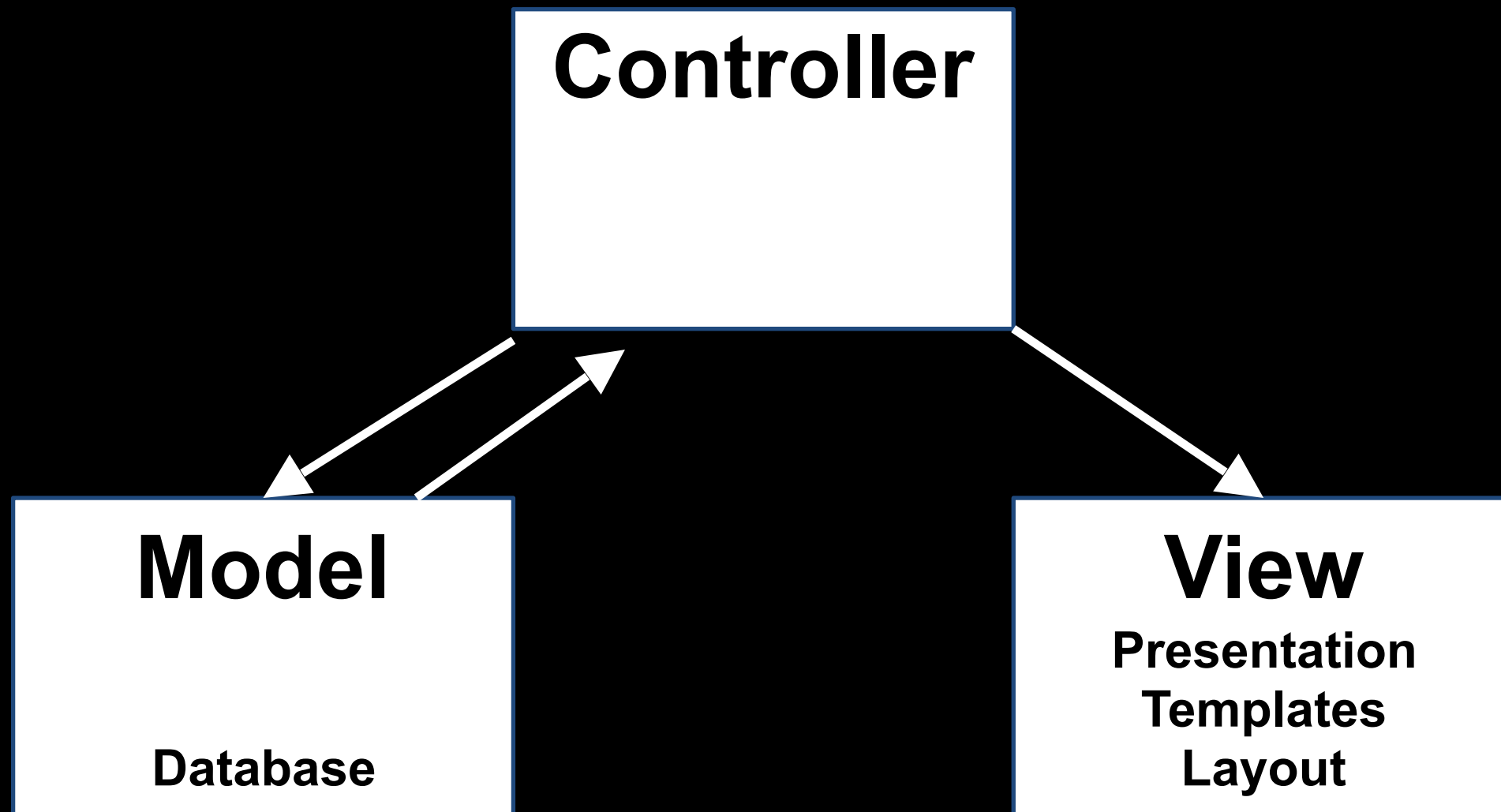
SQL Example!

<http://sqlfiddle.com/#!9/e7a78e/2>

SQL Resources:

- <http://sqlbolt.com/> (don't need to do JOINS or aggregates)
- <http://www.w3schools.com/sql/>
- This video that I made last year... <https://www.youtube.com/watch?v=WzSjTlra1yA> (watch in HD so you can actually read the text on my whiteboard)

MVC



Model-View-Controller

MVC

COMPONENT	FUNCTION	EXAMPLE
Model	<ul style="list-style-type: none">- Persistent storage of information- Managing and organizing data	<ul style="list-style-type: none">- MySQL database- Data files
View	<ul style="list-style-type: none">- Presentation of information to user- User interface	<ul style="list-style-type: none">- HTML- Minimal PHP (e.g., for iterating over data to print it out)
Controller	<ul style="list-style-type: none">- Handles user requests, gets information from the model	<ul style="list-style-type: none">- PHP

C\$50 Finance: Model



C\$50 Finance: Controller

```
$result = query("SELECT * FROM some_table");

if ($result !== false)
{
    foreach ($result as &$row)
    {
        /* process row of result */
    }

    render("some_template", array("data" => $result));
}
else
{
    apologize("Error communicating with database.");
}
```


C\$50 Finance: View

some_template.php:

```
<ul>
  <?php foreach($data as $row): ?>
    <li><?= $row["name"] ?></li>
  <?php endforeach ?>
</ul>
```