

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. search-0.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. Demonstrates form submission.
11.
12. -->
13.
14. <html>
15.     <head>
16.         <title>CS50 Search</title>
17.     </head>
18.     <body>
19.         <h1>CS50 Search</h1>
20.         <form action="https://www.google.com/search" method="get">
21.             <input name="q" type="text"/>
22.             <br/>
23.             <input type="submit" value="CS50 Search"/>
24.         </form>
25.     </body>
26. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. search-1.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. Demonstrates style attribute.
11.
12. -->
13.
14. <html>
15.     <head>
16.         <title>CS50 Search</title>
17.     </head>
18.     <body style="text-align: center">
19.         <h1>CS50 Search</h1>
20.         <form action="https://www.google.com/search" method="get">
21.             <input name="q" type="text"/>
22.             <br/>
23.             <input type="submit" value="CS50 Search"/>
24.         </form>
25.     </body>
26. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. search-2.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. Demonstrates style tag.
11.
12. -->
13.
14. <html>
15.     <head>
16.         <style>
17.             body
18.             {
19.                 text-align: center;
20.             }
21.         </style>
22.         <title>CS50 Search</title>
23.     </head>
24.     <body>
25.         <h1>CS50 Search</h1>
26.         <form action="https://www.google.com/search" method="get">
27.             <input name="q" type="text"/>
28.             <br/>
29.             <input type="submit" value="CS50 Search"/>
30.         </form>
31.     </body>
32. </html>
```

```
1. body
2. {
3.   text-align: center;
4. }
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  search-3.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Demonstrates link tag.
11.
12. -->
13.
14. <html>
15.     <head>
16.         <link href="search-3.css" rel="stylesheet"/>
17.         <title>CS50 Search</title>
18.     </head>
19.     <body>
20.         <h1>CS50 Search</h1>
21.         <form action="https://www.google.com/search" method="get">
22.             <input name="q" type="text"/>
23.             <br/>
24.             <input type="submit" value="CS50 Search"/>
25.         </form>
26.     </body>
27. </html>
```

```
1. <!--
2.
3.  search4.html
4.
5.  David J. Malan
6.  malan@harvard.edu
7.
8.  Demonstrates img tag (and block-level elements).
9.
10. -->
11.
12. <!DOCTYPE html>
13.
14. <html>
15.     <head>
16.         <style>
17.
18.             #header
19.             {
20.                 text-align: center;
21.             }
22.
23.             #content
24.             {
25.                 text-align: center;
26.             }
27.
28.             #content input
29.             {
30.                 margin: 5px;
31.             }
32.
33.             #footer
34.             {
35.                 font-size: smaller;
36.                 font-weight: bold;
37.                 margin: 20px;
38.                 text-align: center;
39.             }
40.
41.         </style>
42.         <title>CS50 Search</title>
43.     </head>
44.     <body>
45.         <div id="header">
46.             
47.         </div>
48.         <div id="content">
```

```
49.         <form action="https://www.google.com/search" method="get">
50.             <input name="q" type="text"/>
51.             <br/>
52.             <input type="submit" value="CS50 Search"/>
53.         </form>
54.     </div>
55.     <div id="footer">
56.         Copyright &#169; CS50
57.     </div>
58. </body>
59. </html>
```

```
1. <?php
2.
3.     /**
4.      * froshims-0.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Implements a registration form for Frosh IMs.
10.     * Submits to register-0.php.
11.     */
12.
13. ?>
14.
15. <!DOCTYPE html>
16.
17. <html>
18.     <head>
19.         <title>Frosh IMs</title>
20.     </head>
21.     <body style="text-align: center;">
22.         <h1>Register for Frosh IMs</h1>
23.         <form action="register-0.php" method="post">
24.             Name: <input name="name" type="text" />
25.             <br/>
26.             <input name="captain" type="checkbox" /> Captain?
27.             <br/>
28.             <input name="gender" type="radio" value="F" /> Female
29.             <input name="gender" type="radio" value="M" /> Male
30.             <br/>
31.             Dorm:
32.             <select name="dorm">
33.                 <option value=""></option>
34.                 <option value="Apley Court">Apley Court</option>
35.                 <option value="Canaday">Canaday</option>
36.                 <option value="Grays">Grays</option>
37.                 <option value="Greenough">Greenough</option>
38.                 <option value="Hollis">Hollis</option>
39.                 <option value="Holworthy">Holworthy</option>
40.                 <option value="Hurlbut">Hurlbut</option>
41.                 <option value="Lionel">Lionel</option>
42.                 <option value="Matthews">Matthews</option>
43.                 <option value="Mower">Mower</option>
44.                 <option value="Pennypacker">Pennypacker</option>
45.                 <option value="Stoughton">Stoughton</option>
46.                 <option value="Straus">Straus</option>
47.                 <option value="Thayer">Thayer</option>
48.                 <option value="Weld">Weld</option>
```



```
49.         <option value="Wigglesworth">Wigglesworth</option>
50.     </select>
51.     <br/>
52.     <input type="submit" value="Register"/>
53. </form>
54. </body>
55. </html>
```

```
1. <?php
2.
3.     /**
4.      * froshims-1.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Implements a registration form for Frosh IMs.
10.     * Submits to register-1.php.
11.     *
12.     * Demonstrates Bootstrap (http://getbootstrap.com/).
13.     */
14.
15. ?>
16.
17. <!DOCTYPE html>
18.
19. <html>
20.     <head>
21.         <link href="bootstrap/css/bootstrap.min.css" rel="stylesheet"/>
22.         <title>Frosh IMs</title>
23.     </head>
24.     <body style="margin: 20px;">
25.         <h1>Register for Frosh IMs</h1>
26.         <form action="register-1.php" method="post">
27.             <fieldset>
28.                 <label>Name</label>
29.                 <input name="name" type="text"/>
30.                 <label class="checkbox">
31.                     <input name="captain" type="checkbox"/> Captain?
32.                 </label>
33.                 <label class="radio">
34.                     <input name="gender" type="radio" value="F"/> Female
35.                 </label>
36.                 <label class="radio">
37.                     <input name="gender" type="radio" value="M"/> Male
38.                 </label>
39.                 <label>
40.                     <select name="dorm">
41.                         <option value=""></option>
42.                         <option value="Apley Court">Apley Court</option>
43.                         <option value="Canaday">Canaday</option>
44.                         <option value="Grays">Grays</option>
45.                         <option value="Greenough">Greenough</option>
46.                         <option value="Hollis">Hollis</option>
47.                         <option value="Holworthy">Holworthy</option>
48.                         <option value="Hurlbut">Hurlbut</option>
```

```
49.         <option value="Lionel">Lionel</option>
50.         <option value="Matthews">Matthews</option>
51.         <option value="Mower">Mower</option>
52.         <option value="Pennypacker">Pennypacker</option>
53.         <option value="Stoughton">Stoughton</option>
54.         <option value="Straus">Straus</option>
55.         <option value="Thayer">Thayer</option>
56.         <option value="Weld">Weld</option>
57.         <option value="Wigglesworth">Wigglesworth</option>
58.     </select>
59. </label>
60.     <button class="btn btn-default" type="submit">Register</button>
61. </fieldset>
62. </form>
63. </body>
64. </html>
```

```
1. <?php
2.
3.     /**
4.      * froshims-2.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Implements a registration form for Frosh IMs.
10.     * Submits to register-2.php.
11.     */
12.
13. ?>
14.
15. <!DOCTYPE html>
16.
17. <html>
18.     <head>
19.         <title>Frosh IMs</title>
20.     </head>
21.     <body style="text-align: center;">
22.         <h1>Register for Frosh IMs</h1>
23.         <form action="register-2.php" method="post">
24.             Name: <input name="name" type="text" />
25.             <br/>
26.             <input name="captain" type="checkbox" /> Captain?
27.             <br/>
28.             <input name="gender" type="radio" value="F" /> Female
29.             <input name="gender" type="radio" value="M" /> Male
30.             <br/>
31.             Dorm:
32.             <select name="dorm">
33.                 <option value=""></option>
34.                 <option value="Apley Court">Apley Court</option>
35.                 <option value="Canaday">Canaday</option>
36.                 <option value="Grays">Grays</option>
37.                 <option value="Greenough">Greenough</option>
38.                 <option value="Hollis">Hollis</option>
39.                 <option value="Holworthy">Holworthy</option>
40.                 <option value="Hurlbut">Hurlbut</option>
41.                 <option value="Lionel">Lionel</option>
42.                 <option value="Matthews">Matthews</option>
43.                 <option value="Mower">Mower</option>
44.                 <option value="Pennypacker">Pennypacker</option>
45.                 <option value="Stoughton">Stoughton</option>
46.                 <option value="Straus">Straus</option>
47.                 <option value="Thayer">Thayer</option>
48.                 <option value="Weld">Weld</option>
```

```
49.         <option value="Wigglesworth">Wigglesworth</option>
50.     </select>
51.     <br/>
52.     <input type="submit" value="Register"/>
53. </form>
54. </body>
55. </html>
```

```
1. <?php
2.
3.     /**
4.      * froshims-3.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Implements a registration form for Frosh IMs.
10.     * Submits to register-3.php.
11.     */
12.
13. ?>
14.
15. <!DOCTYPE html>
16.
17. <html>
18.     <head>
19.         <title>Frosh IMs</title>
20.     </head>
21.     <body style="text-align: center;">
22.         <h1>Register for Frosh IMs</h1>
23.         <form action="register-3.php" method="post">
24.             Name: <input name="name" type="text" />
25.             <br/>
26.             <input name="captain" type="checkbox" /> Captain?
27.             <br/>
28.             <input name="gender" type="radio" value="F" /> Female
29.             <input name="gender" type="radio" value="M" /> Male
30.             <br/>
31.             Dorm:
32.             <select name="dorm">
33.                 <option value=""></option>
34.                 <option value="Apley Court">Apley Court</option>
35.                 <option value="Canaday">Canaday</option>
36.                 <option value="Grays">Grays</option>
37.                 <option value="Greenough">Greenough</option>
38.                 <option value="Hollis">Hollis</option>
39.                 <option value="Holworthy">Holworthy</option>
40.                 <option value="Hurlbut">Hurlbut</option>
41.                 <option value="Lionel">Lionel</option>
42.                 <option value="Matthews">Matthews</option>
43.                 <option value="Mower">Mower</option>
44.                 <option value="Pennypacker">Pennypacker</option>
45.                 <option value="Stoughton">Stoughton</option>
46.                 <option value="Straus">Straus</option>
47.                 <option value="Thayer">Thayer</option>
48.                 <option value="Weld">Weld</option>
```

```
49.         <option value="Wigglesworth">Wigglesworth</option>
50.     </select>
51.     <br/>
52.     <input type="submit" value="Register"/>
53. </form>
54. </body>
55. </html>
```

```
1. <?php
2.
3.     /**
4.      * register-0.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Dumps contents of $_POST.
10.     */
11.
12. ?>
13.
14. <!DOCTYPE html>
15.
16. <html>
17.     <head>
18.         <title>Frosh IMs</title>
19.     </head>
20.     <body>
21.         <pre>
22.             <?php print_r($_POST); ?>
23.         </pre>
24.     </body>
25. </html>
```



```
1. <?php
2.
3.     /**
4.      * register-1.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Implements a registration form for Frosh IMs. Redirects
10.     * user to froshims-1.php upon error.
11.     */
12.
13.     // validate submission
14.     if (empty($_POST["name"]) || empty($_POST["gender"]) || empty($_POST["dorm"]))
15.     {
16.         header("Location: http://localhost/src9m/froshims/froshims-1.php");
17.         exit;
18.     }
19.
20. ?>
21.
22. <!DOCTYPE html>
23.
24. <html>
25.     <head>
26.         <title>Frosh IMs</title>
27.     </head>
28.     <body>
29.         You are registered! (Well, not really.)
30.     </body>
31. </html>
```

```
1. <?php
2.
3.     /**
4.      * register-2.php
5.      *
6.      * Computer Science 50
7.      * David J. Malan
8.      *
9.      * Implements a registration form for Frosh IMS.  Informs user of
10.     * any errors.
11.     */
12.
13. ?>
14.
15. <!DOCTYPE html>
16.
17. <html>
18.     <head>
19.         <title>Frosh IMS</title>
20.     </head>
21.     <body>
22.         <?php if (empty($_POST["name"]) || empty($_POST["gender"]) || empty($_POST["dorm"])): ?>
23.             You must provide your name, gender, and dorm!  Go <a href="froshims-2.php">back</a>.
24.         <?php else: ?>
25.             You are registered!  (Well, not really.)
26.         <?php endif ?>
27.     </body>
28. </html>
```

```
1. <?php
2.
3. /**
4.  * register-3.php
5.  *
6.  * Computer Science 50
7.  * David J. Malan
8.  *
9.  * Implements a registration form for Frosh IMS. Reports registration
10. * via email. Redirects user to froshims-3.php upon error.
11. */
12.
13. // require PHPMailer
14. require("PHPMailer/class.phpmailer.php");
15.
16. // validate submission
17. if (!empty($_POST["name"]) && !empty($_POST["gender"]) && !empty($_POST["dorm"]))
18. {
19.     // instantiate mailer
20.     $mail = new PHPMailer();
21.
22.     // use SMTP
23.     $mail->IsSMTP();
24.     $mail->Host = "smtp.fas.harvard.edu";
25.
26.     // set From:
27.     $mail->SetFrom("jharvard@cs50.net");
28.
29.     // set To:
30.     $mail->AddAddress("jharvard@cs50.net");
31.
32.     // set Subject:
33.     $mail->Subject = "registration";
34.
35.     // set body
36.     $mail->Body =
37.         "This person just registered:\n\n" .
38.         "Name: " . $_POST["name"] . "\n" .
39.         "Captain: " . $_POST["captain"] . "\n" .
40.         "Gender: " . $_POST["gender"] . "\n" .
41.         "Dorm: " . $_POST["dorm"];
42.
43.     // send mail
44.     if ($mail->Send() == false)
45.     {
46.         die($mail->ErrInfo);
47.     }
48. }
```

```
49.     else
50.     {
51.         header("Location: http://localhost/src9m/froshims/froshims-3.php");
52.         exit;
53.     }
54. ?>
55.
56. <!DOCTYPE html>
57.
58. <html>
59.     <head>
60.         <title>Frosh IMs</title>
61.     </head>
62.     <body>
63.         You are registered!   (Really.)
64.     </body>
65. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  css-0.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Implements a (simple) home page for John Harvard.
11.
12. Demonstrates inline CSS.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>css-0</title>
19.     </head>
20.     <body>
21.         <div style="text-align: center;">
22.             <div style="font-size: 36px; font-weight: bold;">
23.                 John Harvard
24.             </div>
25.             <div style="font-size: 24px;">
26.                 Welcome to my home page!
27.             </div>
28.             <div style="font-size: 12px;">
29.                 Copyright &#169; John Harvard
30.             </div>
31.         </div>
32.     </body>
33. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  css-1.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Implements a (simple) home page for John Harvard.
11.
12. Demonstrates CSS selectors.
13.
14. -->
15.
16. <html>
17.   <head>
18.     <style>
19.
20.       body
21.       {
22.         text-align: center;
23.       }
24.
25.       #top
26.       {
27.         font-size: 36px;
28.         font-weight: bold;
29.       }
30.
31.       #middle
32.       {
33.         font-size: 24px;
34.       }
35.
36.       #bottom
37.       {
38.         font-size: 12px;
39.       }
40.
41.     </style>
42.     <title>css-1</title>
43.   </head>
44.   <body>
45.     <div id="top">
46.       John Harvard
47.     </div>
48.     <div id="middle">
```

```
49.         Welcome to my home page!
50.     </div>
51.     <div id="bottom">
52.         Copyright &#169; John Harvard
53.     </div>
54. </body>
55. </html>
```

```
1. body
2. {
3.     text-align: center;
4. }
5.
6. #top
7. {
8.     font-size: 36px;
9.     font-weight: bold;
10. }
11.
12. #middle
13. {
14.     font-size: 24px;
15. }
16.
17. #bottom
18. {
19.     font-size: 12px;
20. }
```



```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  css-2.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Implements a (simple) home page for John Harvard.
11.
12. Demonstrates external stylesheets.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <link href="css-2.css" rel="stylesheet"/>
19.         <title>css-2</title>
20.     </head>
21.     <body>
22.         <div id="top">
23.             John Harvard
24.         </div>
25.         <div id="middle">
26.             Welcome to my home page!
27.         </div>
28.         <div id="bottom">
29.             Copyright &#169; John Harvard
30.         </div>
31.     </body>
32. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  headings.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Demonstrates headings (for chapters, sections, subsections, etc.).
11.
12. -->
13.
14. <html>
15.     <head>
16.         <title>headings</title>
17.     </head>
18.     <body>
19.         <h1>One</h1>
20.         <h2>Two</h2>
21.         <h3>Three</h3>
22.         <h4>Four</h4>
23.         <h5>Five</h5>
24.         <h6>Six</h6>
25.     </body>
26. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  hello.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Says hello to the world (wide web).
11.
12. -->
13.
14. <html>
15.     <head>
16.         <title>hello</title>
17.     </head>
18.     <body>
19.         hello, world
20.     </body>
21. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. image.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. This is Grumpy Cat.
11.
12. Demonstrates images.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>image</title>
19.     </head>
20.     <body>
21.         <!-- http://knowyourmeme.com/memes/grumpy-cat -->
22.         
23.     </body>
24. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. link.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. This is CS50.
11.
12. Demonstrates hyperlinks.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>link</title>
19.     </head>
20.     <body>
21.         This is <a href="https://www.cs50.net/">CS50</a>.
22.     </body>
23. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5.  list.html
6.
7.  David J. Malan
8.  malan@harvard.edu
9.
10. Displays houses in the Quad.
11.
12. Demonstrates (unordered) lists.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>list</title>
19.     </head>
20.     <body>
21.         <ul>
22.             <li>Cabot</li>
23.             <li>Currier</li>
24.             <li>Pforzheimer</li>
25.         </ul>
26.     </body>
27. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. paragraphs.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. Displays some text.
11.
12. Demonstrates paragraphs.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>paragraphs</title>
19.     </head>
20.     <body>
21.         <p>
22.             Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam in tincidunt augue. Duis imperdiet, justo ac iaculis rhoncus, erat
elit dignissim mi, eu interdum velit sapien nec risus. Praesent ullamcorper nibh at volutpat aliquam. Nam sed aliquam risus. Nulla rutrum nunc
augue, in varius lacus commodo in. Ut tincidunt nisi a convallis consequat. Fusce sed pulvinar nulla.
23.         </p>
24.         <p>
25.             Ut tempus rutrum arcu eget condimentum. Morbi elit ipsum, gravida faucibus sodales quis, varius at mi. Suspendisse id viverra
lectus. Etiam dignissim interdum felis quis faucibus. Integer et vestibulum eros, non malesuada felis. Pellentesque porttitor eleifend
laoreet. Duis sit amet pellentesque nisi. Aenean ligula mauris, volutpat sed luctus in, consectetur id turpis. Phasellus mattis dui ac metus
blandit volutpat. Donec lorem arcu, sollicitudin in risus a, imperdiet condimentum augue. Ut at facilisis mauris. Curabitur sagittis augue in
dictum gravida. Integer sed sem sed justo tempus ultrices eu non magna. Phasellus semper eros erat, a posuere nisi auctor et. Praesent
dignissim orci aliquam laoreet scelerisque.
26.         </p>
27.         <p>
28.             Mauris eget erat arcu. Maecenas ac ante vel ipsum bibendum varius. Nunc tristique nulla eget tincidunt molestie. Morbi sed mauris
eu lectus vehicula iaculis ac id lacus. Etiam sit amet magna massa. In pulvinar sapien ac mi ultrices, quis consequat nisl hendrerit. Aliquam
pharetra nec sem non vehicula. In et risus leo. Ut tristique ornare nisl et lacinia.
29.         </p>
30.     </body>
31. </html>
```

```
1. <!DOCTYPE html>
2.
3. <!--
4.
5. table.html
6.
7. David J. Malan
8. malan@harvard.edu
9.
10. Resembles a phone.
11.
12. Demonstrates tables.
13.
14. -->
15.
16. <html>
17.     <head>
18.         <title>table</title>
19.     </head>
20.     <body>
21.         <table border="1">
22.             <tr>
23.                 <td>1</td>
24.                 <td>2</td>
25.                 <td>3</td>
26.             </tr>
27.             <tr>
28.                 <td>4</td>
29.                 <td>5</td>
30.                 <td>6</td>
31.             </tr>
32.             <tr>
33.                 <td>7</td>
34.                 <td>8</td>
35.                 <td>9</td>
36.             </tr>
37.             <tr>
38.                 <td>*</td>
39.                 <td>0</td>
40.                 <td>#</td>
41.             </tr>
42.         </table>
43.     </body>
44. </html>
```



```
1. <?php
2.
3.     /**
4.      *  index.php
5.      *
6.      *  David J. Malan
7.      *  malan@harvard.edu
8.      *
9.      *  A home page for the course.
10.     */
11.
12. ?>
13.
14. <!DOCTYPE html>
15.
16. <html>
17.     <head>
18.         <title>CS50</title>
19.     </head>
20.     <body>
21.         <h1>CS50</h1>
22.         <ul>
23.             <li><a href="lectures.php">Lectures</a></li>
24.             <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
25.         </ul>
26.     </body>
27. </html>
```

```
1. <?php
2.
3.     /**
4.      * lectures.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Links to lectures.
10.     */
11.
12. ?>
13.
14. <!DOCTYPE html>
15.
16. <html>
17.     <head>
18.         <title>Lectures</title>
19.     </head>
20.     <body>
21.         <h1>Lectures</h1>
22.         <ul>
23.             <li><a href="week0.php">Week 0</a></li>
24.             <li><a href="week1.php">Week 1</a></li>
25.         </ul>
26.     </body>
27. </html>
```

1. `mvc/0/README`
- 2.
3. David J. Malan
4. `malan@harvard.edu`
- 5.
6. `index.php` - home page for course
7. `lectures.php` - a list of weeks
8. `week0.php` - a week
9. `week1.php` - a week

```
1. <?php
2.
3.     /**
4.      * week0.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Represents Week 0.
10.     */
11.
12. ?>
13.
14. <!DOCTYPE html>
15.
16. <html>
17.     <head>
18.         <title>Week 0</title>
19.     </head>
20.     <body>
21.         <h1>Week 0</h1>
22.         <ul>
23.             <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wednesday</a></li>
24.             <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
25.         </ul>
26.     </body>
27. </html>
```

```
1. <?php
2.
3.     /**
4.      * week1.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Represents Week 1.
10.     */
11.
12. ?>
13.
14. <!DOCTYPE html>
15.
16. <html>
17.     <head>
18.         <title>Week 1</title>
19.     </head>
20.     <body>
21.         <h1>Week 1</h1>
22.         <ul>
23.             <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/m/week1m.pdf">Monday</a></li>
24.             <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/w/week1w.pdf">Wednesday</a></li>
25.         </ul>
26.     </body>
27. </html>
```

1. `</body>`
2. `</html>`

```
1. <!DOCTYPE html>
2.
3. <html>
4.     <head>
5.         <title>CS50</title>
6.     </head>
7.     <body>
8.         <h1>CS50</h1>
```

```
1. <?php require("header.php"); ?>
2.
3. <ul>
4.     <li><a href="lectures.php">Lectures</a></li>
5.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
6. </ul>
7.
8. <?php require("footer.php"); ?>
```



```
1. <?php require("header.php"); ?>
2.
3. <ul>
4.     <li><a href="week0.php">Week 0</a></li>
5.     <li><a href="week1.php">Week 1</a></li>
6. </ul>
7.
8. <?php require("footer.php"); ?>
```

1. mvc/1/README
- 2.
3. David J. Malan
4. malan@harvard.edu
- 5.
6. Improves upon mvc/0 by factoring out pages' header and footer.
- 7.
8. footer.php - pages' footer
9. header.php - pages' header
10. index.php - home page for course
11. lectures.php - a list of weeks
12. week0.php - a week
13. week1.php - a week

```
1. <?php require("header.php"); ?>
2.
3. <ul>
4.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wednesday</a></li>
5.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
6. </ul>
7.
8. <?php require("footer.php"); ?>
```

```
1. <?php require("header.php"); ?>
2.
3. <ul>
4.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/m/week1m.pdf">Monday</a></li>
5.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/w/week1w.pdf">Wednesday</a></li>
6. </ul>
7.
8. <?php require("footer.php"); ?>
```

1. `</body>`
2. `</html>`

```
1. <!DOCTYPE html>
2.
3. <html>
4.     <head>
5.         <title><?= htmlspecialchars($title) ?></title>
6.     </head>
7.     <body>
8.         <h1><?= htmlspecialchars($title) ?></h1>
```

```
1. <?php
2.
3.     /**
4.      * Renders footer.
5.      */
6.     function renderFooter($data = [])
7.     {
8.         extract($data);
9.         require("footer.php");
10.    }
11.
12.    /**
13.     * Renders header.
14.     */
15.    function renderHeader($data = [])
16.    {
17.        extract($data);
18.        require("header.php");
19.    }
20.
21. ?>
```

```
1. <?php require("helpers.php"); ?>
2.
3. <?php renderHeader(["title" => "CS50"]); ?>
4.
5. <ul>
6.     <li><a href="lectures.php">Lectures</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
8. </ul>
9.
10. <?php renderFooter(); ?>
```



```
1. <?php require("helpers.php"); ?>
2.
3. <?php renderHeader(["title" => "Lectures"]); ?>
4.
5. <ul>
6.     <li><a href="week0.php">Week 0</a></li>
7.     <li><a href="week1.php">Week 1</a></li>
8. </ul>
9.
10. <?php renderFooter(); ?>
```

1. mvc/2/README
- 2.
3. David J. Malan
4. malan@harvard.edu
- 5.
6. Improves upon mvc/1 by wrapping header and footer with a parameterized function.
- 7.
8. footer.php - pages' footer
9. header.php - pages' header
10. helpers.php - helper functions
11. index.php - home page for course
12. lectures.php - a list of weeks
13. week0.php - a week
14. week1.php - a week

```
1. <?php require("helpers.php"); ?>
2.
3. <?php renderHeader(["title" => "Week 0"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wednesday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
8. </ul>
9.
10. <?php renderFooter(); ?>
```

```
1. <?php require("helpers.php"); ?>
2.
3. <?php renderHeader("title" => "Week 1"); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/m/week1m.pdf">Monday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/w/week1w.pdf">Wednesday</a></li>
8. </ul>
9.
10. <?php renderFooter(); ?>
```

1. `</body>`
2. `</html>`

```
1. <!DOCTYPE html>
2.
3. <html>
4.     <head>
5.         <title><?= htmlspecialchars($title) ?></title>
6.     </head>
7.     <body>
8.         <h1><?= htmlspecialchars($title) ?></h1>
```

```
1. <?php
2.
3.     /**
4.      * Renders template.
5.      */
6.     function render($template, $data = [])
7.     {
8.         $path = $template . ".php";
9.         if (file_exists($path))
10.        {
11.            extract($data);
12.            require($path);
13.        }
14.    }
15.
16. ?>
```

```
1. <?php require("helpers.php"); ?>
2.
3. <?php render("header", ["title" => "CS50"]); ?>
4.
5. <ul>
6.     <li><a href="lectures.php">Lectures</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```



```
1. <?php require("helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Lectures"]); ?>
4.
5. <ul>
6.     <li><a href="week0.php">Week 0</a></li>
7.     <li><a href="week1.php">Week 1</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

1. mvc/3/README
- 2.
3. David J. Malan
4. malan@harvard.edu
- 5.
6. Improves upon mvc/2 by generalizing header and footer as templates.
- 7.
8. footer.php - pages' footer
9. header.php - pages' header
10. helpers.php - helper functions
11. index.php - home page for course
12. lectures.php - a list of weeks
13. week0.php - a week
14. week1.php - a week

```
1. <?php require("helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 0"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wednesday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php require("helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 1"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/week1m.pdf">Monday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/week1w.pdf">Wednesday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php
2.
3.     /**
4.      * Renders template.
5.      */
6.     function render($template, $data = [])
7.     {
8.         $path = __DIR__ . '/../templates/' . $template . ".php";
9.         if (file_exists($path))
10.        {
11.            extract($data);
12.            require($path);
13.        }
14.    }
15.
16. ?>
```

```
1. <?php require("includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "CS50"]); ?>
4.
5. <ul>
6.     <li><a href="lectures.php">Lectures</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php require("includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Lectures"]); ?>
4.
5. <ul>
6.     <li><a href="week0.php">Week 0</a></li>
7.     <li><a href="week1.php">Week 1</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

1. mvc/4/README
- 2.
3. David J. Malan
4. malan@harvard.edu
- 5.
6. Improves upon mvc/3 by organizing files into subdirectories.
- 7.
8. includes/
  - 9.     helpers.php - helper functions
10. index.php - home page for course
11. lectures.php - a list of lectures
12. templates/
  - 13.     footer.php - pages' footer
  - 14.     header.php - pages' header
15. week0.php - a week
16. week1.php - a week



1. `</body>`
2. `</html>`

```
1. <!DOCTYPE html>
2.
3. <html>
4.     <head>
5.         <title><?= htmlspecialchars($title) ?></title>
6.     </head>
7.     <body>
8.         <h1><?= htmlspecialchars($title) ?></h1>
```

```
1. <?php require("includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 0"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wendesday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php require("includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 1"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/week1m.pdf">Monday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/week1w.pdf">Wednesday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php
2.
3.     /**
4.      * Renders template.
5.      */
6.     function render($template, $data = [])
7.     {
8.         $path = __DIR__ . '/../templates/' . $template . ".php";
9.         if (file_exists($path))
10.        {
11.            extract($data);
12.            require($path);
13.        }
14.    }
15.
16. ?>
```

```
1. <?php require("../includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "CS50"]); ?>
4.
5. <ul>
6.     <li><a href="lectures.php">Lectures</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/syllabus/syllabus.html">Syllabus</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php require("../includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Lectures"]); ?>
4.
5. <ul>
6.     <li><a href="week0.php">Week 0</a></li>
7.     <li><a href="week1.php">Week 1</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

```
1. <?php require("../includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 0"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/w/week0w.pdf">Wednesday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/0/f/week0f.pdf">Friday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```



```
1. <?php require("../includes/helpers.php"); ?>
2.
3. <?php render("header", ["title" => "Week 1"]); ?>
4.
5. <ul>
6.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/m/week1m.pdf">Monday</a></li>
7.     <li><a href="http://cdn.cs50.net/2013/fall/lectures/1/w/week1w.pdf">Wednesday</a></li>
8. </ul>
9.
10. <?php render("footer"); ?>
```

1. mvc/5/README
- 2.
3. David J. Malan
4. malan@harvard.edu
- 5.
6. Improves upon mvc/4 by isolating web-accessible content in its own subdirectory.
- 7.
8. html/
  9. index.php - home page for course
  10. lectures.php - a list of lectures
  11. week0.php - a week
  12. week1.php - a week
13. includes/
  14. helpers.php - helper functions
15. templates/
  16. footer.php - pages' footer
  17. header.php - pages' header

1. `</body>`
2. `</html>`

```
1. <!DOCTYPE html>
2.
3. <html>
4.     <head>
5.         <title><?= htmlspecialchars($title) ?></title>
6.     </head>
7.     <body>
8.         <h1><?= htmlspecialchars($title) ?></h1>
```

```
1. <?php
2.
3. /**
4.  * conditions-1.php
5.  *
6.  * David J. Malan
7.  * malan@harvard.edu
8.  *
9.  * Tells user if his or her input is positive, zero, or negative.
10. *
11. * Demonstrates use of if-else construct.
12. */
13.
14. // ask user for an integer
15. $n = readline("I'd like an integer please: ");
16.
17. // analyze user's input
18. if ($n > 0)
19. {
20.     printf("You picked a positive number!\n");
21. }
22. else if ($n == 0)
23. {
24.     printf("You picked zero!\n");
25. }
26. else
27. {
28.     printf("You picked a negative number!\n");
29. }
30.
31. ?>
```

```
1. #!/bin/env php
2. <?php
3.
4.     /**
5.      * hello
6.      *
7.      * David J. Malan
8.      * malan@harvard.edu
9.      *
10.     * Says hello to the world.
11.     *
12.     * Demonstrates use of a shebang with env.
13.     */
14.
15.     printf("hello, world\n");
16.
17. ?>
```

```
1. <?php
2.
3.     /**
4.      * return.php
5.      *
6.      * David J. Malan
7.      * malan@harvard.edu
8.      *
9.      * Cubes a variable.
10.     *
11.     * Demonstrates use of parameter and return value.
12.     */
13.
14.     $x = 2;
15.     printf("x is now %d\n", $x);
16.     printf("Cubing...\n");
17.     $x = cube($x);
18.     printf("Cubed!\n");
19.     printf("x is now %d\n", $x);
20.
21.     /**
22.      * Cubes argument.
23.      */
24.     function cube($n)
25.     {
26.         return $n * $n * $n;
27.     }
28.
29. ?>
```