**ch02\_ex2**

**1. index.php**

<?php

//set default value of variables for initial page load

if (!isset($investment)) { $investment = ''; }

if (!isset($interest\_rate)) { $interest\_rate = ''; }

if (!isset($years)) { $years = ''; }

?>

<!DOCTYPE html>

<html>

<head>

<title>Future Value Calculator</title>

<link rel="stylesheet" type="text/css" href="main.css">

</head>

<body>

<main>

<h1>Future Value Calculator</h1>

<?php if (!empty($error\_message)) { ?>

<p class="error"><?php echo htmlspecialchars($error\_message); ?></p>

<?php } ?>

<form action="display\_results.php" method="post">

<div id="data">

<label>Investment Amount:</label>

<input type="text" name="investment"

value="<?php echo htmlspecialchars($investment); ?>">

<br>

<label>Yearly Interest Rate:</label>

<input type="text" name="interest\_rate"

value="<?php echo htmlspecialchars($interest\_rate); ?>">

<br>

<label>Number of Years:</label>

<input type="text" name="years"

value="<?php echo htmlspecialchars($years); ?>">

<br>

</div>

<div id="buttons">

<label>&nbsp;</label>

<input type="submit" value="Calculate"><br>

</div>

</form>

</main>

</body>

</html>

**2. display\_results.php**

<?php

// get the data from the form

$investment = filter\_input(INPUT\_POST, 'investment',

FILTER\_VALIDATE\_FLOAT);

$interest\_rate = filter\_input(INPUT\_POST, 'interest\_rate',

FILTER\_VALIDATE\_FLOAT);

$years = filter\_input(INPUT\_POST, 'years',

FILTER\_VALIDATE\_INT);

// validate investment

if ($investment === FALSE ) {

$error\_message = 'Investment must be a valid number.';

} else if ( $investment <= 0 ) {

$error\_message = 'Investment must be greater than zero.';

// validate interest rate

} else if ( $interest\_rate === FALSE ) {

$error\_message = 'Interest rate must be a valid number.';

} else if ( $interest\_rate <= 0) {

$error\_message = 'Interest rate must be greater than zero .';

} else if ( $interest\_rate > 15 ) {

$error\_message = 'Interest rate must be less than or equal to 15.';

// validate years

} else if ( $years === FALSE ) {

$error\_message = 'Years must be a valid whole number.';

} else if ( $years <= 0 ) {

$error\_message = 'Years must be greater than zero.';

} else if ( $years > 30 ) {

$error\_message = 'Years must be less than 31.';

// set error message to empty string if no invalid entries

} else {

$error\_message = ''; }

// if an error message exists, go to the index page

if ($error\_message != '') {

include('index.php');

exit();

}

// calculate the future value

$future\_value = $investment;

for ($i = 1; $i <= $years; $i++) {

$future\_value += $future\_value \* $interest\_rate \*.01;

}

// apply currency and percent formatting

$investment\_f = '$'.number\_format($investment, 2);

$yearly\_rate\_f = $interest\_rate.'%';

$future\_value\_f = '$'.number\_format($future\_value, 2);

?>

<!DOCTYPE html>

<html>

<head>

<title>Future Value Calculator</title>

<link rel="stylesheet" type="text/css" href="main.css"/>

</head>

<body>

<main>

<h1>Future Value Calculator</h1>

<label>Investment Amount:</label>

<span><?php echo htmlspecialchars($investment\_f); ?></span><br />

<label>Yearly Interest Rate:</label>

<span><?php echo htmlspecialchars($yearly\_rate\_f); ?></span><br />

<label>Number of Years:</label>

<span><?php echo htmlspecialchars($years); ?></span><br />

<label>Future Value:</label>

<span><?php echo htmlspecialchars($future\_value\_f); ?></span><br />

<p>This calculation was done on <?php echo date('m/d/Y'); ?>.</p>

</main>

</body>

</html>

**3. main.css**

body {

font-family: Arial, Helvetica, sans-serif;

}

main {

display: block;

width: 450px;

margin: 0 auto;

padding: 1em;

background: white;

border: 2px solid navy;

}

h1 {

margin-top: 0;

color: navy;

}

label {

width: 10em;

float: left;

padding-right: 1em;

padding-bottom: .5em;

}

#data input {

float: left;

width: 15em;

margin-bottom: .5em;

}

#buttons input {

float: left;

margin-bottom: .5em;

}

br {

clear: left;

}

.error {

color: red;

font-weight: bold;

}