ANSWER KEY

1. HTML/CSS Coding

```html
<div id="main">
  <div id="column1">
    <h1>Zen Garden</h1>

    <div id="slogan">
      <p>A demonstration of...</p>
    </div>

    <div id="enlightenment">
      <h3>The Road to Enlightenment</h3>
      <p>Littering a dark and dreary road lay...</p>
      <p>Today, we must clear the mind...</p>

      <div id="selectadesign">
        <h3>Select Design</h3>
        <ul><li><a href="">Under the Sea!</a> by Eric Stoltz</li>
          <li><a href="">Make 'em Proud</a> by Michael McAghon and Scotty</li>...</ul>
      </div>
    </div>
  </div>

  <div id="whatabout">
    <h3>So What is This About?</h3>
    <p>There is clearly a need for CSS to be taken seriously...</p>
    <p>CSS allows complete and total control over the style of a hypertext doc...</p>

    <h3>Participation</h3>
    <ul>
      <li>Graphic artists only please. You are modifying this page...</li>
      <li>Zen editors modify the style sheet in any way you wish, but not ...</li>
    </ul>
  </div>
</div>
```

```css
body {
  background-image: url("heading.gif");
  background-repeat: no-repeat;
  color: #471C47;
  font-family: Verdana, sans-serif;
  font-size: 9pt;
}
#main   { margin-left: 130px; }
h1      { display: none; }
#slogan { font-style: italic; }
#selectadesign   { border-top: 3px solid #A690AF; }
#selectadesign a { font-weight: bold; }

#enlightenment {
  background-image: url("toad.png");
  background-repeat: no-repeat;
  background-position: right bottom;
  float: left;
  padding-right: 1em;
  width: 26em;
}
#whatabout {
  background-color: #A690AF;
  border: 2px solid #471C47;
  float: left;
  padding: 1em;
  width: 21em;
}
#whatabout h3 { text-align: right; }
```

2. PHP

```php
<?php
if (!isset($_GET["letter"]) || !isset($_GET["times"]) ||
        strlen($_GET["letter"]) != 1 || $_GET["times"] <= 0) {
    header("HTTP/1.1 400 Invalid Request");
    die("invalid request");
}

$letter = strtolower($_GET["letter"]);
$times = (int) $_GET["times"];

$matches = 0;
foreach (file("peeps.txt", FILE_IGNORE_NEW_LINES) as $line) {
    $lowerline = strtolower($line);
    $count = 0;
    for ($i = 0; $i < strlen($line); $i++) {
        $ch = $lowerline[$i];
        if ($ch == $letter) {
            $count++;
        }
    }
    if ($count >= $times) {
        $matches++;
        ?>
        <p><strong><?= $line ?></strong>
            contains '<?= $letter ?>' exactly <?= $times ?> times.</p>
        <?php
    }
}

if ($matches == 0) {
    ?>
    <p>No names contained '<?= $letter ?>' enough times.</p>
    <?php
}
?>
```

3. JavaScript/DOM

```javascript
window.onload = function() {
    document.getElementById("blend").onclick = blendClick;
};

function blendClick() {
    document.getElementById("output").innerHTML = "";

    var name = document.getElementById("yourname").value;
    var x = 0;
    var y = 0;

    for (var i = 0; i < name.length; i++) {
        if (document.getElementById("sequential").checked) {
            x = x + 12;
            y = y + 12;
        } else {
            x = parseInt(Math.random() * 300);
            y = parseInt(Math.random() * 100);
        }
        var span = document.createElement("span");
        span.innerHTML = name[i];
        span.style.fontFamily = document.getElementById("font").value;
        span.style.fontSize = "18pt";
        span.style.position = "absolute";
        span.style.left = x + "px";
        span.style.top  = y + "px";
        document.getElementById("output").appendChild(span);
    }
}
```

4. Regular Expressions

a) `/^[0-9]{5}(-[0-9]{4})?$/`

b) `^\$[0-9]*\.[0-9][0-9]$`

c) `<[a-zA-Z]+( [a-zA-Z]+="[a-zA-Z]")*\/>`

5. SQL

```sql
-- all the times a director has appeared in his own movie, twice

SELECT DISTINCT d.first_name, d.last_name
FROM directors d
JOIN movies_directors md ON md.director_id = d.id
JOIN roles r1 ON r1.movie_id = md.movie_id
JOIN roles r2 ON r2.movie_id = md.movie_id
JOIN actors a ON a.id = r1.actor_id AND a.id = r2.actor_id
WHERE a.first_name = d.first_name AND a.last_name = d.last_name
 AND r1.role < r2.role
ORDER BY d.last_name, d.first_name;
```