

CSE 154 Section Sample Final Key

1. CSS

With any code problem, there are always several correct solutions. Here is one:

```
body { text-align: center; font-family: monospace; }
#div { background-color: yellow; font-weight: bold; }
div span { float: left; border: 2px solid black; }
.div, #span { float: right; width: 25%; border: 2px solid black; }
#span { clear: right; font-style: italic; }
.span { clear: right; border-top: 2px dashed black; }
```

2. PHP - horoscope

```
<?php
if(isset($_COOKIE["file"])) {
    header("Location: midterm-submit.php");
}

$sign = "";
if(isset($_COOKIE["sign"])) {
    $sign = $_COOKIE["sign"];
}
?>

<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <h1>Find your horoscope!</h1>
        <form action="midterm-submit.php">
            <input type="text" value="<?=$sign ?>" name="sign" />
            <input type="submit" />
        </form>
    </body>
</html>
```

horoscope-submit.php

```
<?php
```

```
    if(isset($_COOKIE["file"])) {
        $file = $_COOKIE["file"];
        $display = file_get_contents($file);
    } else {
        $sign = $_GET["sign"];

        $files = glob("$sign/*.txt");
        $display = "I'm sorry. We do not have data for $sign.";

        if(count($files) > 0) {
            $r = rand(0, count($files) - 1);
            $file = $files[$r];

            setcookie("sign", $sign);
            setcookie("file", $file, time() + 60 * 60 * 24);
            $display = file_get_contents($file);
        }
    }
}
```

```
?>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
    <head>
```

```
    </head>
```

```
    <body>
```

```
        <h1><?=$sign ?> horoscope for today:</h1>
```

```
        <p>
```

```
            <?=$display ?>
```

```
        </p>
```

```
    </body>
```

```
</html>
```

3.

```
<?php
```

```
$start = $_GET["start"];
$end = $_GET["end"];

$file = file("classes.txt");

$classCount = 0;
$classes = array();
for($i = 0; $i < count($file); $i++) {
    #CSE154 1:30 2:30 250 250 Web Programming
    $split = split(" ", $file[$i], 6);

    if($split[1] == $start && $split[2] == $end) {
        $classCount++;
        if($split[3] < $split[4]) {
            $class = array("code" => $split[0],
                "spaces" => ($split[4]-
                    $split[3]), "name" =>
                    $split[5]);
            $classes[] = $class;
        }
    }
}

$all = array("count" => $classCount, "classes" =>$classes);

header("Content-type: application/json");
print(json_encode($all));
```

```
?>
```

```

4.
window.onload = function() {
    document.getElementById("search").onclick = search;
}

function search() {
    document.getElementById("count").innerHTML = "";
    document.getElementById("results").innerHTML = "";
    var start = document.getElementById("start").value;
    var end = document.getElementById("end").value;
    var request = new XMLHttpRequest();
    request.onload = processData;
    request.open("GET", "classes.php?start=" + start +
                "&end=" + end, true);
    request.send();
}

function processData() {
    var data = JSON.parse(this.responseText);
    for(var i = 0; i < data.classes.length; i++) {
        var item = document.createElement("li");
        item.innerHTML = data.classes[i].name + " - " +
                        data.classes[i].spaces + " spaces"
        document.getElementById("results").appendChild(item);
    }
    document.getElementById("count").innerHTML = data.count +
                " total classes offered";
}

```

5.

a) /^#[A-Za-f0-9]{6}\$/

b) /^5[1-5][0-9]{14}\$/

c) /^(([1-9]|10|11|12):[0-5][0-9] (A|P)M)\$/

6. SQL (2 solutions shown)

```
SELECT DISTINCT t.name, c.name
FROM teachers t
JOIN courses c ON c.teacher_id = t.id
JOIN grades g1 ON g1.course_id = c.id
JOIN grades g2 ON g2.course_id = c.id
WHERE g1.student_id <> g2.student_id
AND g1.grade <= 'C-' AND g2.grade <= 'C-';
```

```
SELECT DISTINCT t.name, c.name
FROM teachers t
JOIN courses c ON c.teacher_id = t.id
JOIN grades g1 ON g1.course_id = c.id
JOIN students s1 ON s1.id = g1.student_id
JOIN grades g2 ON g2.course_id = c.id
JOIN students s2 ON s2.id = g2.student_id
WHERE s1.name < s2.name
AND g1.grade <= 'C-' AND g2.grade <= 'C-';
```