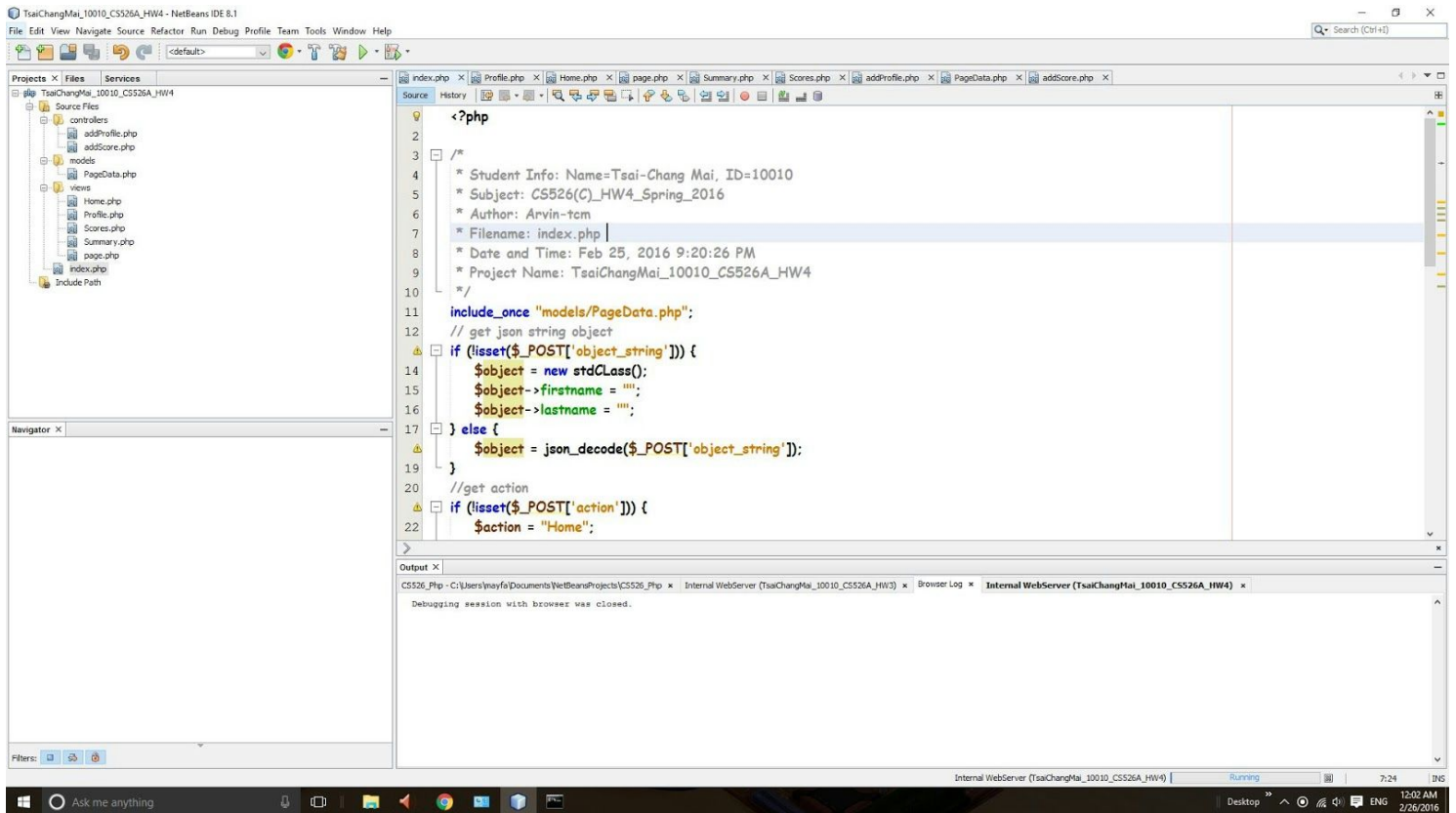


## 1) screenshot



## 2) PHP code

**“controllers/addProfile.php”**

```
<?php
```

```
/*
```

```
* Student Info: Name=Tsai-Chang Mai, ID=10010
* Subject: CS526(C)_HW4_Spring_2016
* Author: Arvin-tcm
* Filename: addProfile.php
* Date and Time: Feb 25, 2016 9:28:04 PM
* Project Name: TsaiChangMai_10010_CS526A_HW4
*/
```

```
$object->firstname = $_POST['firstName'];
```

```
$object->lastname = $_POST['lastName'];
```

```
$json = json_encode($object);
```

**“controllers/addScore.php”**

```
<?php
```

```
/*
```

```
* Student Info: Name=Tsai-Chang Mai, ID=10010
* Subject: CS526(C)_HW4_Spring_2016
* Author: Arvin-tcm
* Filename: addScore.php
* Date and Time: Feb 25, 2016 9:27:56 PM
* Project Name: TsaiChangMai_10010_CS526A_HW4
```

```
*/
$temp = $_POST['class'];
if (!isset($object->$temp)) {
    $object->$temp = [];
}
array_push($object->$temp, $_POST['score']);
$json = json_encode($object);
"models/PageData.php"
<?php

/*
 * Student Info: Name=Tsai-Chang Mai, ID=10010
 * Subject: CS526(C)_HW4_Spring_2016
 * Author: Arvin-tcm
 * Filename: PageData.php
 * Date and Time: Feb 25, 2016 9:17:45 PM
 * Project Name: TsaiChangMai_10010_CS526A_HW4
 */
```

```
class PageData {

    public $title = "";
    public $content = "";
    public $css = "";
    public $embeddedStyle = "";
    //declare a new property for script elements
    public $scriptElements = "";

    //declare a new method for adding Javascript files
    public function addScript($src) {
        $this->scriptElements .= "<script src='$src'></script>";
    }

    public function addCSS($href) {
        $this->css .= "<link href='$href' rel='stylesheet' />";
    }

}
```

```
"views/Home.php"
<?php
```

```
/*
 * Student Info: Name=Tsai-Chang Mai, ID=10010
 * Subject: CS526(C)_HW4_Spring_2016
 * Author: Arvin-tcm
 * Filename: Home.php
 * Date and Time: Feb 25, 2016 9:51:28 PM
 * Project Name: TsaiChangMai_10010_CS526A_HW4
```

```

*/
return "<h1>Grade Book</h1>
    <form action='index.php' method='post'>
        <h2>Input Student Information</h2>
        <input type='submit' name='action' value='Profile' />
        <h2>Input Student Scores</h2>
        <input type='submit' name='action' value='Scores' />
        <h2>Display Score Summary</h2>
        <input type='submit' name='action' value='Summary' />
        <input type='text' hidden name='object_string' value='$json'/>
    </form>";

    "views/Profile.php"
<?php
/*
* Student Info: Name=Tsai-Chang Mai, ID=10010
* Subject: CS526(C)_HW4_Spring_2016
* Author: Arvin-tcm
* Filename: Profile.php
* Date and Time: Feb 25, 2016 9:28:41 PM
* Project Name: TsaiChangMai_10010_CS526A_HW4
*/

return "<h1>Student Information</h1>
<form action='index.php' method='post'>
    <h2>Input Student Information</h2>
    <table>
        <tr>
            <td>Last Name: </td>
            <td><input type='text' name='lastName' value='$object->lastname' /></td>
        </tr>
        <tr>
            <td>First Name: </td>
            <td><input type='text' name='firstName' value='$object->firstname' /></td>
        </tr>
    </table>
    <input type='text' hidden name='object_string' value='$json'/><hr>
    <input type='submit' name='action' value='Save Profile' />
</form>";

    "views/Scores.php"
<?php

/*
* Student Info: Name=Tsai-Chang Mai, ID=10010
* Subject: CS526(C)_HW4_Spring_2016
* Author: Arvin-tcm
* Filename: Scores.php
* Date and Time: Feb 25, 2016 9:28:27 PM
* Project Name: TsaiChangMai_10010_CS526A_HW4

```

```

*/
if (!isset($temp)) {
    $temp = "";
}
return "<h1>Student Scores</h1>
    <form action='index.php' method='post'>
        <h2>Input Student Information</h2>
        <table>
            <tr>
                <td>
                    Course Number:
                </td>
                <td>
                    <input type='text' name='class' value='$temp' />
                </td>
            </tr>
            <tr>
                <td>
                    Score:
                </td>
                <td>
                    <input type='text' name='score' />
                </td>
            </tr>
        </table>
        <input type='text' hidden name='object_string' value='$json' /><hr>
        <input type='submit' name='action' value='Home' />
        <input type='submit' name='action' value='Save Score' />
    </form>";
    "views/Summary.php"
<?php

```

```

/*
* Student Info: Name=Tsai-Chang Mai, ID=10010
* Subject: CS526(C)_HW4_Spring_2016
* Author: Arvin-tcm
* Filename: Summary.php
* Date and Time: Feb 25, 2016 9:25:25 PM
* Project Name: TsaiChangMai_10010_CS526A_HW4
*/
$output = "<h1>Student Score Summary</h1>";

```

```

//return object of record
function findMinMaxAvg($array) {
    $sum = 0;
    $size = count($array);
    $result = new stdClass();
    $result->min = $array[0];

```

```

$result->max = $array[0];
$result->avg = 0.0;
for ($i = 0; $i < $size; $i++) {
    $sum += $array[$i];
    if ($result->min > $array[$i]) {
        $result->min = $array[$i];
    } elseif ($result->max < $array[$i]) {
        $result->max = $array[$i];
    }
}
$result->avg = $sum / $size;
return $result;
}

foreach ($object as $key => $value) {
    if (is_array($value)) {
        $record = findMinMaxAvg($value);
        $output.= 'course: ' . $key . ', max: ' . $record->max . ', min: ' . $record->min . ', avg: ' . $record->avg . '<br>';
    } else {
        $output.= $key . ': ' . $value . '<br>';
    }
}
$output .= "<form action='index.php' method='post'>";
$output .= "<input type='text' hidden name='object_string' value='$json'/>";
$output .= "<hr><input type='submit' name='action' value='Home' />";
$output .= "</form>";
return $output;

"views/page.php"

<?php

/*
 * Student Info: Name=Tsai-Chang Mai, ID=10010
 * Subject: CS526(C)_HW4_Spring_2016
 * Author: Arvin-tcm
 * Filename: page.php
 * Date and Time: Feb 25, 2016 9:18:47 PM
 * Project Name: TsaiChangMai_10010_CS526A_HW4
 */
return "<!DOCTYPE html>
<html>
<head>
<title>$pageData->title</title>
<meta http-equiv='Content-Type' content='text/html; charset=utf-8'/>
$pageData->css
$pageData->embeddedStyle
</head>
<body>
$pageData->content

```

```
$pageData->scriptElements
</body>
</html>";
    "index.php"
<?php

/*
 * Student Info: Name=Tsai-Chang Mai, ID=10010
 * Subject: CS526(C)_HW4_Spring_2016
 * Author: Arvin-tcm
 * Filename: index.php
 * Date and Time: Feb 25, 2016 9:20:26 PM
 * Project Name: TsaiChangMai_10010_CS526A_HW4
 */
include_once "models/PageData.php";
// get json string object
if (!isset($_POST['object_string'])) {
    $object = new stdClass();
    $object->firstname = "";
    $object->lastname = "";
} else {
    $object = json_decode($_POST['object_string']);
}
//get action
if (!isset($_POST['action'])) {
    $action = "Home";
} else {
    $action = $_POST['action'];
}
$json = json_encode($object);
$pageData = new PageData();
$pageData->title = $action;

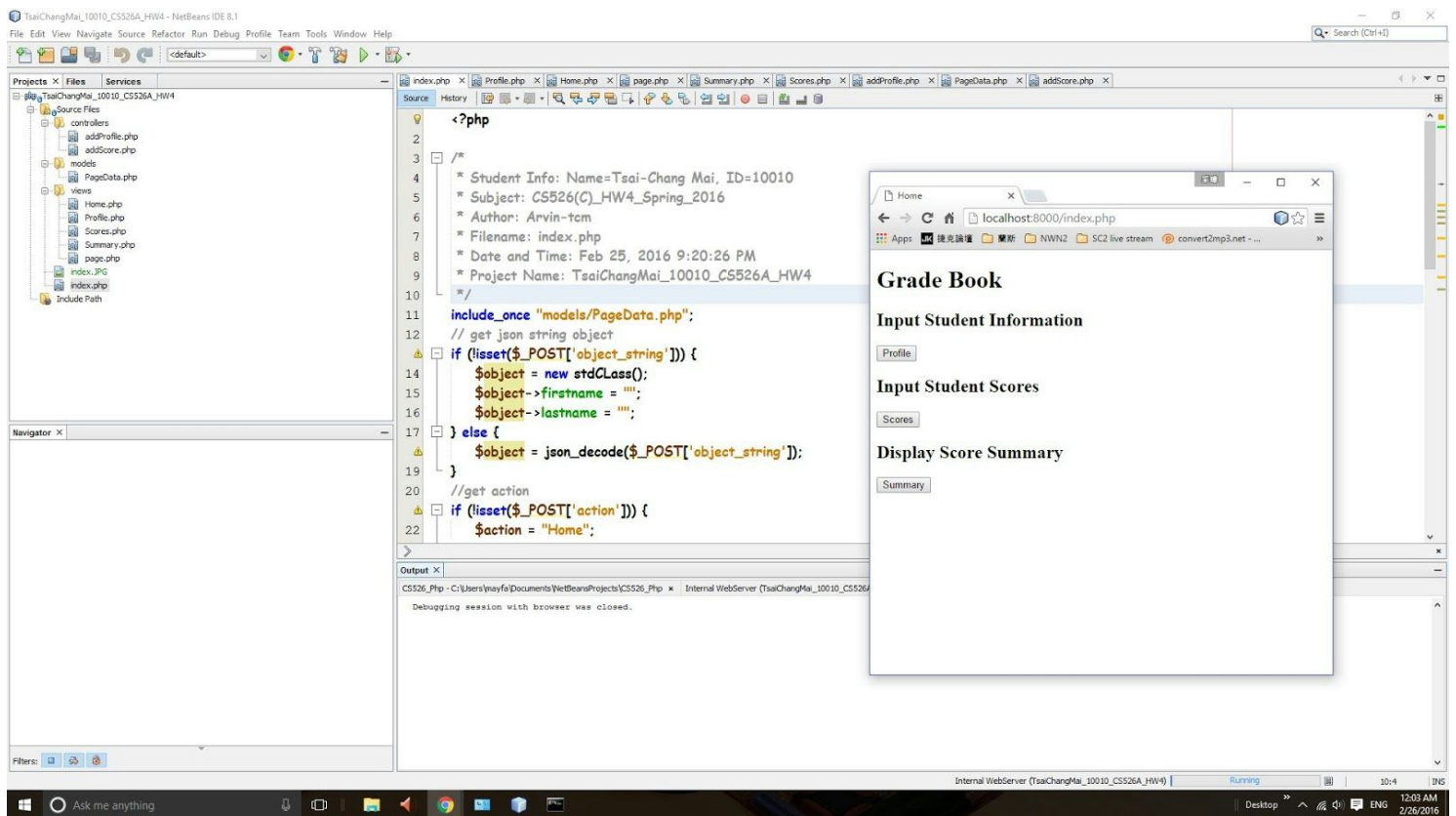
switch ($action) {
    case "Profile":
        $pageData->content .= include_once 'views/Profile.php';
        break;
    case "Scores":
        $pageData->content .= include_once 'views/Scores.php';
        break;
    case "Summary":
        $pageData->content .= include_once 'views/Summary.php';
        break;
    case "Save Profile":
        require "controllers/addProfile.php";
        $pageData->content .= include_once 'views/Home.php';
        break;
    case "Save Score":
```

```

require "controllers/addScore.php";
$pageData->content .= include_once 'views/Scores.php';
break;
default:
    $pageData->content .= include_once 'views/Home.php';
    break;
}
$page = include_once "views/page.php";
echo $page;

```

### 3) result screen shot





NetBeans IDE 8.1 interface showing the source code of `index.php` and the rendered web page in a browser window.

**Source Code (index.php):**

```
<?php
1
2
3 /*
4  * Student Info: Name=Tsai-Chang Mai, ID=10010
5  * Subject: CS526(C)_HW4_Spring_2016
6  * Author: Arvin-tcm
7  * Filename: index.php
8  * Date and Time: Feb 25, 2016 9:20:26 PM
9  * Project Name: TsaiChangMai_10010_CS526A_HW4
10 */
11 include_once "models/PageData.php";
12 // get json string object
13 if (!isset($_POST['object_string'])) {
14     $object = new stdClass();
15     $object->firstname = "";
16     $object->lastname = "";
17 } else {
18     $object = json_decode($_POST['object_string']);
19 }
20 //get action
21 if (!isset($_POST['action'])) {
22     $action = "Home";
23 }
```

**Browser Window (localhost:8000/index.php):**

### Student Information

#### Input Student Information

Last Name:

First Name:

NetBeans IDE 8.1 interface showing the source code of `index.php` and the rendered web page in a browser window.

**Source Code (index.php):**

```
<?php
1
2
3 /*
4  * Student Info: Name=Tsai-Chang Mai, ID=10010
5  * Subject: CS526(C)_HW4_Spring_2016
6  * Author: Arvin-tcm
7  * Filename: index.php
8  * Date and Time: Feb 25, 2016 9:20:26 PM
9  * Project Name: TsaiChangMai_10010_CS526A_HW4
10 */
11 include_once "models/PageData.php";
12 // get json string object
13 if (!isset($_POST['object_string'])) {
14     $object = new stdClass();
15     $object->firstname = "";
16     $object->lastname = "";
17 } else {
18     $object = json_decode($_POST['object_string']);
19 }
20 //get action
21 if (!isset($_POST['action'])) {
22     $action = "Home";
23 }
```

**Browser Window (localhost:8000/index.php):**

### Student Scores

#### Input Student Information

Course Number:

Score:



The screenshot displays the NetBeans IDE environment with a PHP project named 'TsaiChangMai\_10010\_CS526A\_HW4'. The project structure includes controllers, models, and views. The main file, 'index.php', contains the following PHP code:

```
<?php
1
2
3
4 /*
5  * Student Info: Name=Tsai-Chang Mai, ID=10010
6  * Subject: CS526(C)_HW4_Spring_2016
7  * Author: Arvin-tom
8  * Filename: index.php
9  * Date and Time: Feb 25, 2016 9:20:26 PM
10 * Project Name: TsaiChangMai_10010_CS526A_HW4
11 */
12 include_once "models/PageData.php";
13 // get json string object
14 if (!isset($_POST['object_string'])) {
15     $object = new stdClass();
16     $object->firstname = "";
17     $object->lastname = "";
18 } else {
19     $object = json_decode($_POST['object_string']);
20 }
21 //get action
22 if (!isset($_POST['action'])) {
23     $action = "Home";
24 }
```

The browser window shows the rendered page titled 'Student Score Summary' at 'localhost:8000/index.php'. The page displays the following information:

Student Info: Name=Tsai-Chang Mai, ID=10010  
Subject: CS526(C)\_HW4\_Spring\_2016  
Author: Arvin-tom  
Filename: index.php  
Date and Time: Feb 25, 2016 9:20:26 PM  
Project Name: TsaiChangMai\_10010\_CS526A\_HW4

Student Score Summary

firstname: mai  
lastname: johnson  
course: CS552, max: 125, min: 1, avg: 72.2

Home

The output window shows the following message:

CS526\_Php - C:\Users\mayfa\Documents\NetBeansProjects\CS526\_Php x Internal WebServer (TsaiChangMai\_10010\_CS526A\_HW4)  
Debugging session with browser was closed.