PHP ASSIGNMENT

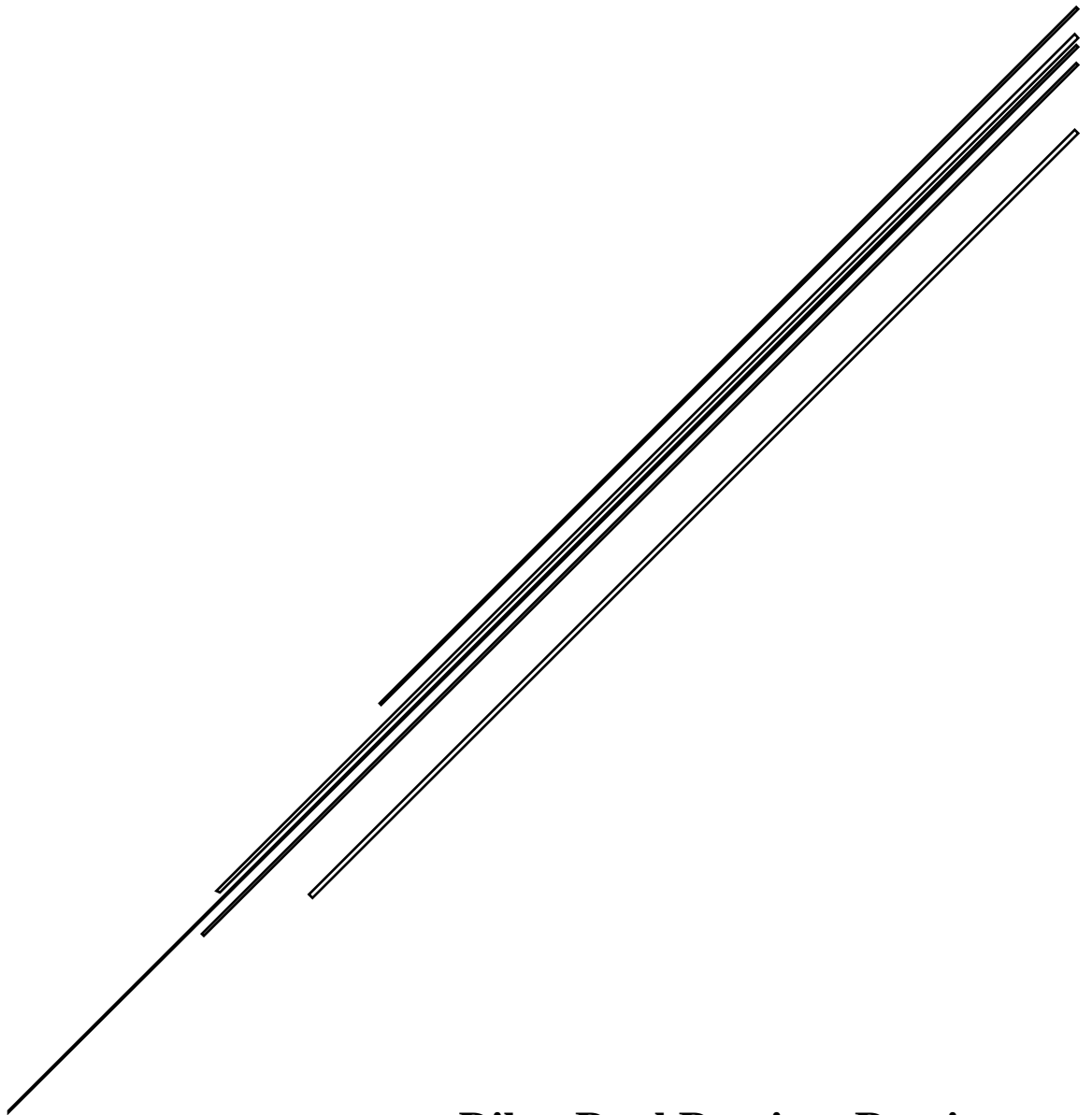## CS3360 - Programming Languages

Dilan Raul Ramirez Ramirez
February 19, 2020

Introduction

A certain medical office does home visits for housebound patients. Scheduling the visits efficiently is important, and I will build a prototype web-based system to help. Every afternoon the scheduler starts with a list of patients to be visited tomorrow. For each patient, she has the mane, whether or not this is a new patient, and sometimes time constraints. For example, if the patient's daughter needs to be there but is only available in the anteroom. There is also a patient master list, which contains names, addresses, approximate map coordinates, etc. the output is a tentative schedule, which she can edit if necessary, and then give to the clinician who will do the home visits. The goal of assignment 1 is to learn how PHP works and what its features are.
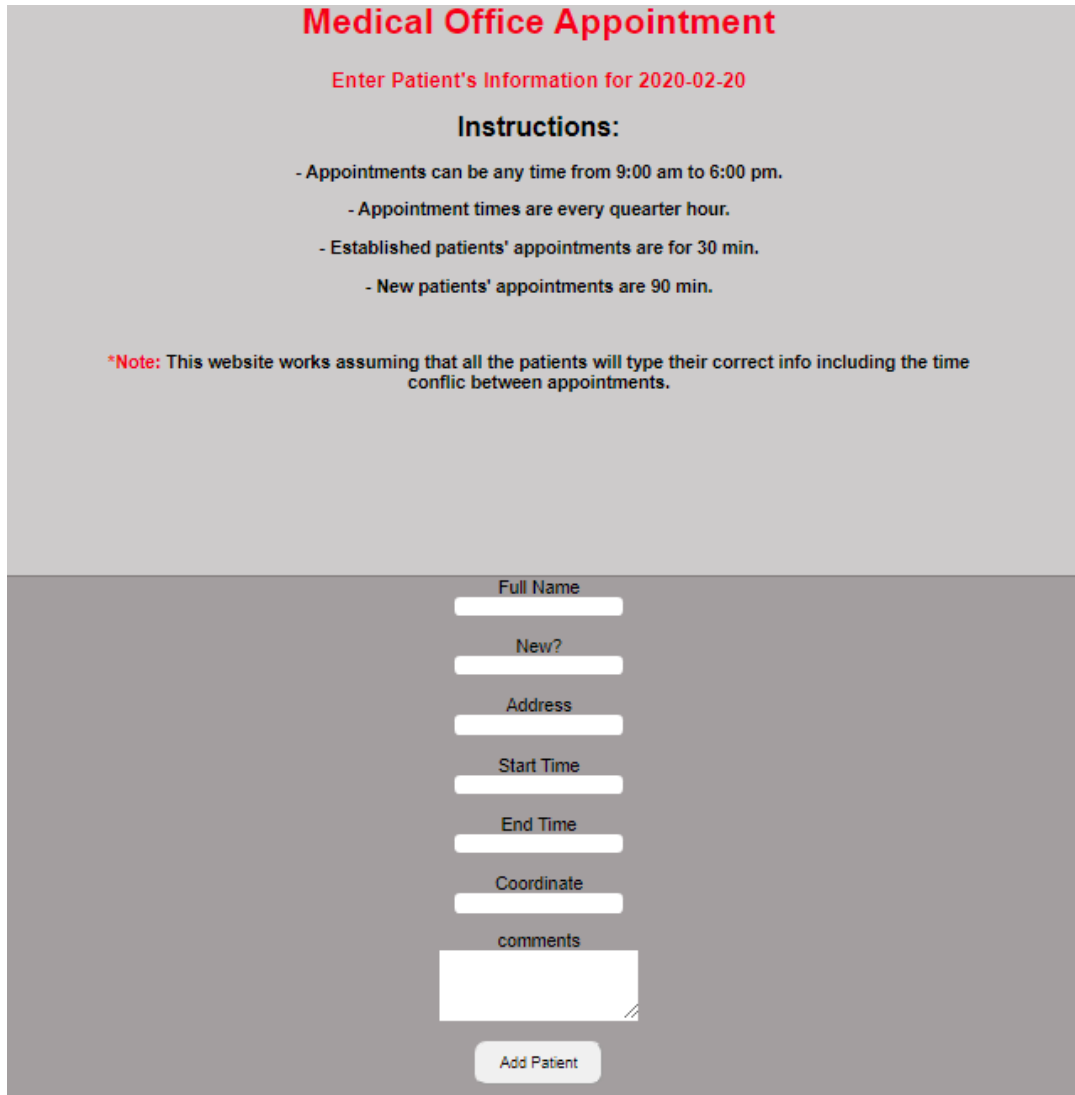
Description

Once you click on the link previously given, you will see the title "Medical Office Appointment" and then some instructions on how to use it. Then, there will be an area where patients can type their info and schedule an appointment. Below it, there will be a table that will be generated with new information every time a new patient is added. In the bottom, there is a section with tools to modify the patients' schedules. Its features are described the next way:

1. **Input section:** in the input section all the patients can type their full name, whether or not they are new patients, address, start appointment time, end appointment time, coordinate of their house, and some extra comments regarding theirs contains. Once all the patient's info is typed, there is a button called "add patient" to add the patient to the schedule.
2. **Table section:** the table section includes all the fields of the input section plus a patient number and the patients' info.
3. **Tool section:** The tool section includes some useful tools to edit the patient schedule. The first tool is to delete a patient by name, the second tool is to swap patient's position in the table by typing their patient's number, the third one is to delete the whole patient schedule, and the last tool is to download a copy of the schedule in text format to keep a backup.

The instruction on how to use it is located below the website title, and the rest is very easy to use. There is no need to set a tutorial to use it, just start typing all the patients' info.

Evidence

- A single view of the principal website.

- View of adding the patient's name, in this case, my name.

- View of the table with one patient.

- Table with three patients

Patient Schedule
for 2020-02-20

Number	Start Time	End Time	Address	Full Name	New	Comments	Driving Time
0	9:00	9:30	3421 Address 1 Ln. El Paso, TX.	Dilan Raul Ramirez Ramirez	no	I will try to be on Time	10 minutes
1	10:00	11:30	1010 Address 2 Ln. El Paso, TX.	Celene Ortega	Yes	No comments	12.8 minutes
2	15:00	15:30	2345 Address 3 Ln. El Paso, TX.	John Smith	No	This appointment is for my son.	10 minutes

Type person's name to delete:

Delete

switch patients:
patient's position to change

New patient's position

Switch

Delete Schedule

Download Schedule
schedule.txt

- Swap John Smith to Dilan's position

Patient Schedule
for 2020-02-20

Number	Start Time	End Time	Address	Full Name	New	Comments	Driving Time
0	9:00	9:30	2345 Address 3 Ln. El Paso, TX.	John Smith	No	This appointment is for my son.	10 minutes
1	10:00	11:30	1010 Address 2 Ln. El Paso, TX.	Celene Ortega	Yes	No comments	12.8 minutes
2	15:00	15:30	3421 Address 1 Ln. El Paso, TX.	Dilan Raul Ramirez Ramirez	no	I will try to be on Time	10 minutes

Type person's name to delete:

Delete

switch patients:
patient's position to change

New patient's position

Switch

Delete Schedule

Download Schedule
schedule.txt

- Delete Celene's appointment.

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Patient Schedule

for 2020-02-20

Number	Start Time	End Time	Address	Full Name	New	Comments	Driving Time
0	9:00	9:30	2345 Address 3 Ln. El Paso, TX.	John Smith	No	This appointment is for my son.	10 minutes
1	15:00	15:30	3421 Address 1 Ln. El Paso, TX.	Dilan Raul Ramirez Ramirez	no	I will try to be on Time	10 minutes

Type person's name to delete:

Delete

- Delete the whole schedule

Patient Schedule

for 2020-02-20

Number	Start Time	End Time	Address	Full Name	New	Comments	Driving Time

Type person's name to delete:

Delete

Code Structure
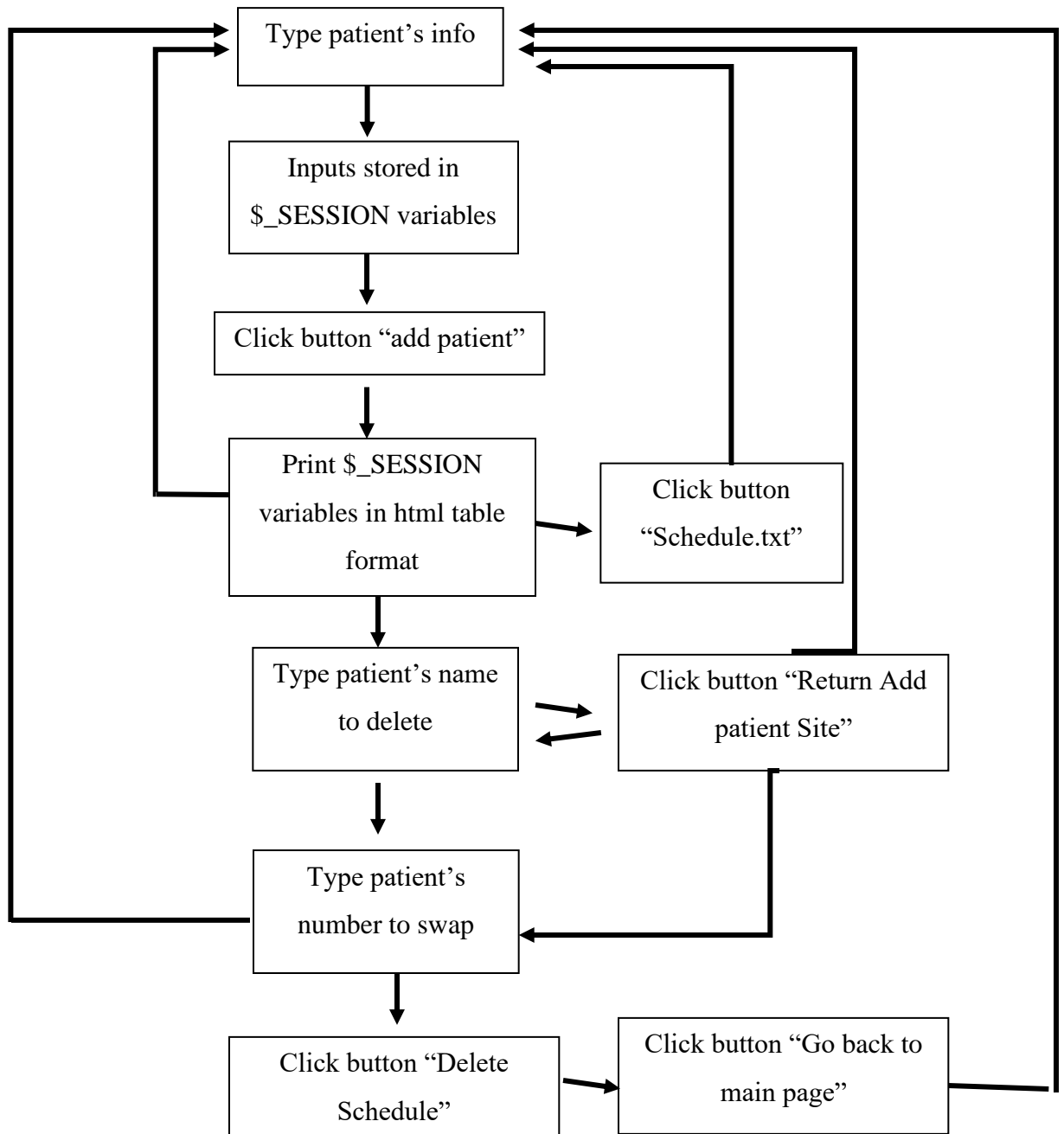
Data Structures

Store Patients

The following PHP code shows how user input is stored in $_SESSION variables. This type of variable let contains many values such as an array. The advantage is that variables are global and do not get erased if the code runs several times.

```php
<?php
      session_start();
      //Create session arrays storing patients' input.
      if (isset($_POST["fullName"])){
      $_SESSION["fullname"][] = $_POST["fullName"];
      }
      if (isset($_POST["new"])){
      $_SESSION["new"][] = $_POST["new"];
      }
      if (isset($_POST["address"])){
      $_SESSION["address"][] = $_POST["address"];
      }
      if (isset($_POST["startTime"])){
      $_SESSION["startTime"][] = $_POST["startTime"];
      }
      if (isset($_POST["endTime"])){
      $_SESSION["endTime"][] = $_POST["endTime"];
      }
      if (isset($_POST["coord1"])){
      $_SESSION["coord1"][] = $_POST["coord1"];
      }
      if (isset($_POST["comments"])){
      $_SESSION["comments"][] = $_POST["comments"];
      }
?>
```

Print Patient Schedule

The following PHP code shows how an HTML table is mixed with PHP code to display a table format output of the user inputs. Every $_SESSION variable is filtered by its index to only show the patient we want to display.

```php
//Display table of all the patients.
$i = 0;
foreach($_SESSION["startTime"] as $item => $k) {?>
      <tr>
      <td><center><?php echo $i?></center></td>
      <td><center><?php echo $_SESSION["startTime"][$item]?></center></td>
      <td><center><?php echo $_SESSION["endTime"][$item]?></center></td>
      <td><center><?php echo $_SESSION["address"][$item]?></center></td>
      <td><center><b><?php echo $_SESSION["fullname"][$item]."</b>";?></center></td>
      <td ><font color="red"><center><?php echo
      $_SESSION["new"][$item]?></center></font></td>
      <td><center><?php echo $_SESSION["comments"][$item]?></center></td>
      <td><center><?php echo $_SESSION["coord2"][$item].' minutes'?></center></td>
      </tr><?php
      $i = $i + 1;
 }
```

Swap Patients

The following PHP code shows how patients are swapped of position depending of their index in the $_SESSION arrays. A patient is filtered by his or her name to then look for him or her in the array. To fully swap a patient, this process should be done in all fields such as "fullname", "Address", etc.

```php
<?php
    session_start();
    error_reporting(0);

    $name = $_SESSION["fullname"][$_POST["pos1"]];
    $new = $_SESSION["new"][$_POST["pos1"]];
    $address = $_SESSION["address"][$_POST["pos1"]];
    $start = $_SESSION["startTime"][$_POST["pos1"]];
    $end = $_SESSION["endTime"][$_POST["pos1"]];
    $coord1 = $_SESSION["coord2"][$_POST["pos1"]];
    $comments = $_SESSION["comments"][$_POST["pos1"]]

    $_SESSION["fullname"][$_POST["pos1"]] = $_SESSION["fullname"][$_POST["pos2"]];
    $_SESSION["fullname"][$_POST["pos2"]] = $name;
    $_SESSION["new"][$_POST["pos1"]] = $_SESSION["new"][$_POST["pos2"]];
    $_SESSION["new"][$_POST["pos2"]] = $new;
    $_SESSION["address"][$_POST["pos1"]] = $_SESSION["address"][$_POST["pos2"]];
    $_SESSION["address"][$_POST["pos2"]] = $address;

    $_SESSION["start"][$_POST["pos1"]] = $_SESSION["start"][$_POST["pos2"]];
    $_SESSION["start"][$_POST["pos2"]] = $start;

    $_SESSION["end"][$_POST["pos1"]] = $_SESSION["end"][$_POST["pos2"]];
    $_SESSION["end"][$_POST["pos2"]] = $end;

    $_SESSION["coord2"][$_POST["pos1"]] = $_SESSION["coord2"][$_POST["pos2"]];
    $_SESSION["coord2"][$_POST["pos2"]] = $coord1;

    $_SESSION["comments"][$_POST["pos1"]] = $_SESSION["comments"][$_POST["pos2"]];
    $_SESSION["comments"][$_POST["pos2"]] = $comments;

?>
<html>
    <!-- swap position of patient -->
    <form action="search.php" method="post">
        <b>switch patients: <br></b>
        patient's position to change<br>
            <input type="text" name="pos1"><br>
        New patient's position<br>
            <input type="text" name="pos2"><br>
            <button>Switch</button>
    </form><br><br>
</html>
```

Delete Patient Schedule

The following PHP code shows how $_SESSION variables are destroyed, and the content

deleted.

```
<html>
     <form action="delete.php" method="post">
          <button>Delete Schedule</button>
     </form>
</html>
<?php
    session_start();
    session_destroy();
    error_reporting(0);
?>
<html>
<h1><center>Schedule Erased</h1></center>
<center><form action="index.php" method="post">
    <button>Go back to main page</button>
</form></center>
</html>
```

Download Patient Schedule

The following PHP code shows how the patient schedule is download by clicking Download
Schedule button. It downloads the schedule in text format.

```
<?php
$filename = basename($_GET['file']);
// Specify file path.
$path = ''; // '/uplods/'
$download_file =  $path.$filename;

if(!empty($filename)){
    // Check file is exists on given path.
    if(file_exists($download_file))
    {
      header('Content-Disposition: attachment; filename=' . $filename);
      readfile($download_file);
      exit;
    }
    else
    {
      echo 'File does not exists on given path';
    }
 }
 ?
```

Appendix index.php

```
<html>
    <head>
```

```
        <title> Dilan Ramirez - Programming Languages </title>
        <link href="main.css" rel="stylesheet">
    </head>
    <body>
        <div class="title" align="center">
            <h1> Medical Office Appointment</h1>
            <h3>Enter    Patient's    Information    for    <?php    echo    date("Y-m-d",
strtotime('tomorrow')) ?></h3>
            <div id="instructions">
                <b><p><font size="5">Instructions:</font></p>
                <p>
                <p>- Appointments can be any time from 9:00 am to 6:00 pm.</p>
                <p>- Appointment times are every quearter hour.</p>
                <p>- Established patients' appointments are for 30 min.</p>
                <p>- New patients' appointments are 90 min.</p><br>
                <p><font color="red">*Note: </font>This website works assuming that
all the patients will type their correct info including the time conflic between
appointments.</p>
                </p></b>
            </div>
        </div>
        <div id="values">
            <!-- Set format inputs using HTML -->
            <form action="index.php" method="post">
                Full Name<br>
                <input id="age" type="text" name="fullName" value="" />
                <br>
                <br>
                New?<br>
                <input id="age" type="text" name="new" value="" />
                <br>
                <br>
                Address<br>
                <input id="age" type="text" name="address" value="" />
                <br>
                <br>
                Start Time <br>
                <input type="text" name="startTime">
                <br>
                <br>
                End Time <br>
                <input type="text" name="endTime">
                <br>
                <br>
                Coordinate <br>
                <input type="text" name="coord1">
                </p>
                comments <br>
                <textarea col="40" rows="4" name="comments"></textarea>
                <br>
                <br>
                <button>Add Patient</button>
            </form>
        </div>
        <h1>Patient Schedule</h1>
```

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```
        <h2><center><font color="red">for <?php echo date("Y-m-d",
strtotime('tomorrow')) ?></center></font></h2>
        <div id="tableForm">
            <!--Create format table using HTML  -->
          <table style="width:80%" align="center" border="1" background="#fff">
              <thead>
                    <tr>
                    <th>Number</th>
                    <th>Start Time</th>
                    <th>End Time</th>
                    <th>Address</th>
                    <th>Full Name</th>
                    <th>New</th>
                    <th>Comments</th>
                    <th>Driving Time</th>
                    </tr>
              </thead>
              <tbody>
                  <?php
                      session_start();
                      error_reporting(0);

                      //Create session arrays storing patients' input.
                      if (isset($_POST["fullName"])){
                          $_SESSION["fullname"][] = $_POST["fullName"];
                      }
                      if (isset($_POST["new"])){
                          $_SESSION["new"][] = $_POST["new"];
                      }
                      if (isset($_POST["address"])){
                          $_SESSION["address"][] = $_POST["address"];
                      }
                      if (isset($_POST["startTime"])){
                          $_SESSION["startTime"][] = $_POST["startTime"];
                      }
                      if (isset($_POST["endTime"])){
                          $_SESSION["endTime"][] = $_POST["endTime"];
                      }
                      if (isset($_POST["coord1"])){
                          $_SESSION["coord1"][] = $_POST["coord1"];
                      }
                      if (isset($_POST["comments"])){
                          $_SESSION["comments"][] = $_POST["comments"];
                      }

                      //Get coordinate from patient
                      $coordinate = $_POST["coord1"];
                      $letter = array();

                      //Function to calculate driving time from one coordinate ot
another.
                      function letterConvertion($coordinate){
                          $letter = str_split($coordinate);
                          if($letter[0] == "A"){
                              $time1 = 1;
```

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```php
        }else if($letter[0] == "B"){
            $time1 = 2;
        }else if($letter[0] == "C"){
            $time1 = 3;
        }else if($letter[0] == "D"){
            $time1 = 4;
        }else if($letter[0] == "E"){
            $time1 = 5;
        }else if($letter[0] == "F"){
            $time1 = 6;
        }else if($letter[0] == "G"){
            $time1 = 7;
        }else if($letter[0] == "H"){
            $time1 = 8;
        }else if($letter[0] == "I"){
            $time1 = 9;
        }else if($letter[0] == "J"){
            $time1 = 10;
        }else if($letter[0] == "K"){
            $time1 = 11;
        }else if($letter[0] == "L"){
            $time1 = 12;
        }else if($letter[0] == "M"){
            $time1 = 13;
        }else if($letter[0] == "N"){
            $time1 = 14;
        }else if($letter[0] == "O"){
            $time1 = 15;
        }else if($letter[0] == "P"){
            $time1 = 16;
        }else if($letter[0] == "Q"){
            $time1 = 17;
        }else if($letter[0] == "R"){
            $time1 = 18;
        }else if($letter[0] == "S"){
            $time1 = 19;
        }else if($letter[0] == "T"){
            $time1 = 20;
        }else if($letter[0] == "U"){
            $time1 = 21;
        }else if($letter[0] == "V"){
            $time1 = 22;
        }else if($letter[0] == "W"){
            $time1 = 23;
        }else if($letter[0] == "X"){
            $time1 = 24;
        }else if($letter[0] == "Y"){
            $time1 = 25;
        }else if($letter[0] == "Z"){
            $time1 = 26;
        }

        $point = array();
        $point[0] = $time1;
        $point[1] = "$letter[1]";
```

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```php
                                return $point;
                            }
                            $point2 = letterConvertion($coordinate);
                            $tempPoint = $point2;


                            //Function that calculates driving time based on a origin.
                            function calculateTime($point2){
                                $drivingTime = sqrt(pow(0 - $point2[0], 2) + pow(0 -
$point2[1], 2));

                                return round($drivingTime, 2);
                            }
                            $drivingTime = 2 * calculateTime($point2);
                            if($drivingTime>0){
                                $_SESSION["coord2"][] = $drivingTime;
                            }


                            //creates a big array with all the patients and their info to
then use it in
                            //the search.php file to swap patient's positions.
                            $result = array_merge_recursive(
                                array_combine($_SESSION["startTime"],
$_SESSION["endTime"]),
                                array_combine($_SESSION["address"],
$_SESSION["fullname"]),
                                array_combine($_SESSION["new"], $_SESSION["comments"]),
                                array_combine($_SESSION["coord1"], $_SESSION["coord2"])
                            );

                            //Display table of all the patients.
                            $i = 0;
                            foreach($_SESSION["startTime"] as $item => $k) {
                                ?>
                                <tr>
                                    <td><center><?php echo $i?></center></td>
                                    <td><center><?php echo
$_SESSION["startTime"][$item]?></center></td>
                                    <td><center><?php echo
$_SESSION["endTime"][$item]?></center></td>
                                    <td><center><?php echo
$_SESSION["address"][$item]?></center></td>
                                    <td><center><b><?php echo
$_SESSION["fullname"][$item]."</b>";?></center></td>
                                    <td ><font color="red"><center><?php echo
$_SESSION["new"][$item]?></center></font></td>
                                    <td><center><?php echo
$_SESSION["comments"][$item]?></center></td>
                                    <td><center><?php echo $_SESSION["coord2"][$item].'
minutes'?></center></td>
                                </tr><?php
                                $i = $i + 1;
                            }
```

```
                            //Creates a copy of the patient's schedule in text format to
then can download it.
                            $fp = fopen('schedule.txt', 'w');
                            foreach ($_SESSION["startTime"] as $item => $k) {
                                fwrite($fp, print_r("Appointment:
".$_SESSION["startTime"][$item].' to ', TRUE));
                                fwrite($fp, print_r($_SESSION["endTime"][$item], TRUE));
                                fwrite($fp, print_r(",    Address:
".$_SESSION["address"][$item].', ', TRUE));
                                fwrite($fp, print_r("Name:
".$_SESSION["fullname"][$item].', ', TRUE));
                                fwrite($fp, print_r('*'.$_SESSION["new"][$item].'*, ',
TRUE));
                                fwrite($fp, print_r("Cooments:
".$_SESSION["comments"][$item].', ', TRUE));
                                fwrite($fp, print_r("driving time from origin:
".$_SESSION["coord2"][$item], TRUE));
                            }
                            fclose($fp);
                            ?>
                    </tbody>
                </table><br><br>
                <!-- Display all the option to edit patient schedule -->
                <div id="options">
                    <br>
                    <!-- Delete a patient -->
                    <form action="scheduler.php" method="post">
                        <b>Type person's name to delete: <br></b>
                        <input type="text" name="delete"><br>
                        <button>Delete</button><br>
                    </form><br>
                    <!-- swap potition of patient -->
                    <form action="search.php" method="post">
                        <b>switch patients: <br></b>
                        patient's position to change<br>
                        <input type="text" name="pos1"><br>
                        New patient's position<br>
                        <input type="text" name="pos2"><br>
                        <button>Switch</button>
                    </form><br><br>
                    <form action="delete.php" method="post">
                        <button>Delete Schedule</button>
                    </form>
                    <!-- Code to download text file that contains the tomorrow's schedule
-->
                    <?php
                        $dir = "./";
                        $allFiles = scandir($dir);
                        $files = array_diff($allFiles, array('.', '..'));

                        foreach($files as $file){
                            if($file == "schedule.txt"){
                                echo 'Download Schedule'."<br>";
                                echo "<a href='download.php?
file=".$file."'>".$file."</a><br>";
```

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```
                    }

                }
            ?>
        </div>
    </div>
</body>
</html>
```

Appendix delete.php

```php
<?php
    session_start();
    session_destroy();
    error_reporting(0);
?>
<html>
<h1><center>Schedule Erased</h1></center>
<center><form action="index.php" method="post">
    <button>Go back to main page</button>
</form></center>
</html>
```

Appendix search.php

```php
<?php
    session_start();
    error_reporting(0);

    $name = $_SESSION["fullname"][$_POST["pos1"]];
    $new = $_SESSION["new"][$_POST["pos1"]];
    $address = $_SESSION["address"][$_POST["pos1"]];
    $start = $_SESSION["startTime"][$_POST["pos1"]];
    $end = $_SESSION["endTime"][$_POST["pos1"]];
    $coord1 = $_SESSION["coord2"][$_POST["pos1"]];
    $comments = $_SESSION["comments"][$_POST["pos1"]]


    $_SESSION["fullname"][$_POST["pos1"]] = $_SESSION["fullname"][$_POST["pos2"]];
    $_SESSION["fullname"][$_POST["pos2"]] = $name;
    $_SESSION["new"][$_POST["pos1"]] = $_SESSION["new"][$_POST["pos2"]];
    $_SESSION["new"][$_POST["pos2"]] = $new;
    $_SESSION["address"][$_POST["pos1"]] = $_SESSION["address"][$_POST["pos2"]];
    $_SESSION["address"][$_POST["pos2"]] = $address;

    $_SESSION["start"][$_POST["pos1"]] = $_SESSION["start"][$_POST["pos2"]];
    $_SESSION["start"][$_POST["pos2"]] = $start;

    $_SESSION["end"][$_POST["pos1"]] = $_SESSION["end"][$_POST["pos2"]];
    $_SESSION["end"][$_POST["pos2"]] = $end;
```

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```
    $_SESSION["coord2"][$_POST["pos1"]] = $_SESSION["coord2"][$_POST["pos2"]];
    $_SESSION["coord2"][$_POST["pos2"]] = $coord1;

    $_SESSION["comments"][$_POST["pos1"]] = $_SESSION["comments"][$_POST["pos2"]];
    $_SESSION["comments"][$_POST["pos2"]] = $comments;

?>
<html>
    <center><h1>
        Patient Changed.
        <h2>
            <?php echo 'Patient: '.$name.' with appointment at '.$start.' - '.$end.'
was changed from position '.$_POST["pos1"].' to position '. $_POST["pos2"]. ' in the
table.';?>
        </h2>
    </h1></center>
    <br>
    <br>
    <br>
    <form action="index.php" method="post">
        <button>Return Add Patient Site.</button>
    </form>
</html>
```

Appendix Download.php

```php
<?php
$filename = basename($_GET['file']);
// Specify file path.
$path = ''; // '/uplods/'
$download_file =  $path.$filename;

if(!empty($filename)){
    // Check file is exists on given path.
    if(file_exists($download_file))
    {
      header('Content-Disposition: attachment; filename=' . $filename);
      readfile($download_file);
      exit;
    }
    else
    {
      echo 'File does not exists on given path';
    }
 }
 ?>
```

Appendix main.css

```css
body, html {
    font-family: Poppins-Regular, sans-serif;
```

```css
        background-color: #4a464626;
}

h1{
        size: 16px;
        color: red;
        text-align: center;
}

h2{
        size: 16px;
        color: red;
        text-align: center;
}

h4{
        font-size: 18px;
}

h3{

        size: 16px;
        color: red;
        text-align: center;
}

input {

        border: 1px;
        border-radius: 5px;
}

textarea {
  outline: none;
  border: none;
}

textarea:focus, input:focus {
  border-color: transparent !important;
}

button {
        border-radius: 10px;
        padding: 10px 20px;
}

#options{
        text-align: center;

}

#container{
        z-index: 500000;
}
```

```
#values{
    text-align: center;
    border: 2px solid #827c7c;
    border-radius: 10px;
    background-color: #827c7c8f;
}
#tableForm{
    border: 1px solid #827c7c;
    border-radius: 11px;
    background-color: #827c7c8f;
}

#form{
    position: absolute;
    text-align: center;
}

#instructions{
    position: relative;
    width: 80%;
    height: 40%;
    text-align: center;
    margin-bottom: 2%;
}

table {
    display: table;
    border-collapse: separate;
    white-space: normal;
    line-height: normal;
    font-weight: normal;
    font-size: medium;
    font-style: normal;
    color: -internal-quirk-inherit;
    text-align: start;
    border-spacing: 2px;
    border-color: grey;
    font-variant: normal;
    background-color: #fff;
}
```

Conclusion

After working on this I learn a lot about PHP and its properties. However, there were a
few challenges. For example, storing all the patient inputs without overwriting them. Using the
coordinates to calculate driving time because I need to split an array to get one character.