

# Assignment 9

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November 27, 2018

PHP Demo Site: [click here](#)

## PHP Test Code

In [11]: `<link rel="stylesheet" type="text/css" href="../css/style.css">`

```
<?php
/**
 * Created by PhpStorm.
 * User: karen
 * Date: 10/24/18
 * Time: 12:00 PM
 */

require_once('../connect/connect.php');
require_once('../helper/schedulehelper.php');

function insert($con, $dept, $date, $empid, $start_time, $firstname, $lastname)
{
    $query = "SELECT length FROM shift WHERE from_time='$start_time'";
    $res = mysqli_query($con, $query);
    $num_lengths = mysqli_num_rows($res);
    if ($num_lengths > 1) {
        echo '<h4><center>But there are multiple shift length at this start time!!</center></h4>';
        $i = 0;
        while ($row = mysqli_fetch_assoc($res)) {
            $i = $i + 1;
            echo '<center><br><br>option ' . $i . ': ' . $row['length'] . 'hrs <br></center>';
        }
        echo '<br><br><center>Which shift length? Please specify!</center>';
    } else {
        $shift_length = mysqli_fetch_assoc($res)['length'];

        $query = "INSERT INTO schedule (date, empid, dept, start_time, shift_length) VALUES
            ('$date',
            '$empid',
```

```

        '$dept',
        '$start_time',
        $shift_length)";
echo '<center>SQL Query: ' . $query . '</center>';
$result = mysqli_query($con, $query);
if (!($result)) {
    $msg = 'MySQL error #' . mysqli_connect_errno() . ": " . mysqli_connect_error();
    printf($msg, __FILE__, __LINE__);
} else {
    echo '<br><br><h4><center>Employee <i>' . $firstname . ' ' . $lastname .
        '</i> is scheduled on ' . $date . ' starting from ' . $start_time . ' for ' . $shift_length .
        ' hours in ' . $dept . '</center></h4>';
}
}
}

```

```

function schedule($con, $dept, $date, $empid, $start_time)
{
    $date = convert_date_format($date);

    $query = "SELECT firstname, lastname
              FROM employees
              WHERE empid = '$empid'";
    $result = mysqli_query($con, $query);

    if (0 == mysqli_num_rows($result)) {
        echo '<br><br><h4 style="color: red"><center>No Employee <i>' . $empid .
            '</i> in the database! Please double check!</center></h4>';
    } else {
        $row = mysqli_fetch_assoc($result);
        $firstname = $row['firstname'];
        $lastname = $row['lastname'];

        $query = "SELECT *
                  FROM schedule
                  WHERE empid='$empid'
                  AND date='$date'
                  AND dept='$dept'";

        $result = mysqli_query($con, $query);
        if (!($result)) {
            $msg = 'MySQL error #' . mysqli_connect_errno() . ": " . mysqli_connect_error();
            printf($msg, __FILE__, __LINE__);
        } else if (0 == mysqli_num_rows($result)) {

            echo '<br>
                <h4><center><i>' . $firstname . ' ' . $lastname . '</i> is open for

```

```

        schedule on ' . $date . ' starting from ' . $start_time . ' in ' . $dept . ' </cent

        insert($con, $dept, $date, $empid, $start_time, $firstname, $lastname);
    } else {

        echo "<br><br>";
        echo "<h4 style='color: red'><center>Employee <i>" . $firstname . " " .
        $lastname . "</i> has already been scheduled on $date:</center></h4><br><br>";

        echo "<table class='center' border=1>";
        echo "<tr>";
        $i = 0;
        while ($i < mysqli_num_fields($result)) {
            $meta = mysqli_fetch_field_direct($result, $i);
            echo "<td>" . $meta->name . "</td>";
            $i = $i + 1;
        }

        while ($row = mysqli_fetch_assoc($result)) {
            echo "<tr>\n";
            foreach ($row as $cell) {
                echo "<td> $cell </td>";
            }
            echo "</tr>\n";
        }

        echo "</table><br><br><br>";
    }
}

}

}

function unschedule($con, $dept, $date, $empid)
{
    $date = convert_date_format($date);

    $query = "SELECT firstname, lastname
              FROM employees
              WHERE empid = '$empid'";
    $result = mysqli_query($con, $query);

    if (0 == mysqli_num_rows($result)) {
        echo "<br><br>
              <h4 style='color: red'><center>No Employee <i>' . $empid . '</i>
              in the database! Please double check!</center></h4>";
    } else {

```

```

$row = mysqli_fetch_assoc($result);

$firstname = $row['firstname'];
$lastname = $row['lastname'];

$query = "SELECT *
          FROM schedule
          WHERE empid='$empid'
          AND date='$date'
          AND dept='$dept'";
if (0 == mysqli_num_rows(mysqli_query($con, $query))) {

    echo '<br><br><center><h4 style="color: red">Employee <i>' . $firstname . ' ' .
        $lastname . '</i> has not been scheduled, please double check!!</h4></center><br>';
} else {
    $query = "DELETE FROM schedule WHERE dept='$dept' AND date='$date' AND empid='$empid'";
    $result = mysqli_query($con, $query);
    if ($result) {
        echo '<center><h4>Employee <i>' . $firstname . ' ' . $lastname . '</i> is
            successfully unscheduled on ' . $date . ' in the ' . $dept . ' department.</h4>';
    }
}
}

function test_cases($con)
{
    $dept_arr = array('EMERGENCY', 'PEDIATRICS', 'RADIOLOGY', 'ONCOLOGY');
    $empid_arr = array('853537', '854480', '878397', '898057', '945540', '995636', '123456');
    $date_arr = array('10-01-2018', '10-03-2018', '09-24-2018', '09-28-2018', '09-30-2018', '10-01-2018');
    $start_time_arr = array('07:00:00', '19:00:00', '15:00:00', '23:00:00');

    $num_tests = 5;
    $i = 0;

    # test scheduling:
    while ($i < $num_tests) {
        $i = $i + 1;
        echo '<h3 style="margin-left: 20%">Test ' . $i . ' :</h3><br><br>';

        echo '<h4 style="margin-left: 25%">Schedule Case ' . $i . ' :</h4><br><br>';

        $dept = $dept_arr[array_rand($dept_arr, 1)];
        $date = $date_arr[array_rand($date_arr, 1)];
        $empid = $empid_arr[array_rand($empid_arr, 1)];
        $start_time = $start_time_arr[array_rand($start_time_arr, 1)];
    }
}

```

```

echo '<center>Department: ' . $dept . '<br><br>Date: ' . $date . '<br><br>EmployeeID: ' .
$empid . '<br><br>StartTime: ' . $start_time . '<br><br></center>';

schedule($con, $dept, $date, $empid, $start_time);

echo '<br><br><br><h4 style="margin-left: 25%">Unschedule Case ' . $i . ' :</h4><br><br>

$dept = $dept_arr[array_rand($dept_arr, 1)];
$date = $date_arr[array_rand($date_arr, 1)];
$empid = $empid_arr[array_rand($empid_arr, 1)];

echo '<center>Department: ' . $dept . '<br><br>Date: ' . $date . '<br><br>EmployeeID: ' .
$empid . '<br><br>StartTime: ' . $start_time . '<br><br></center>';

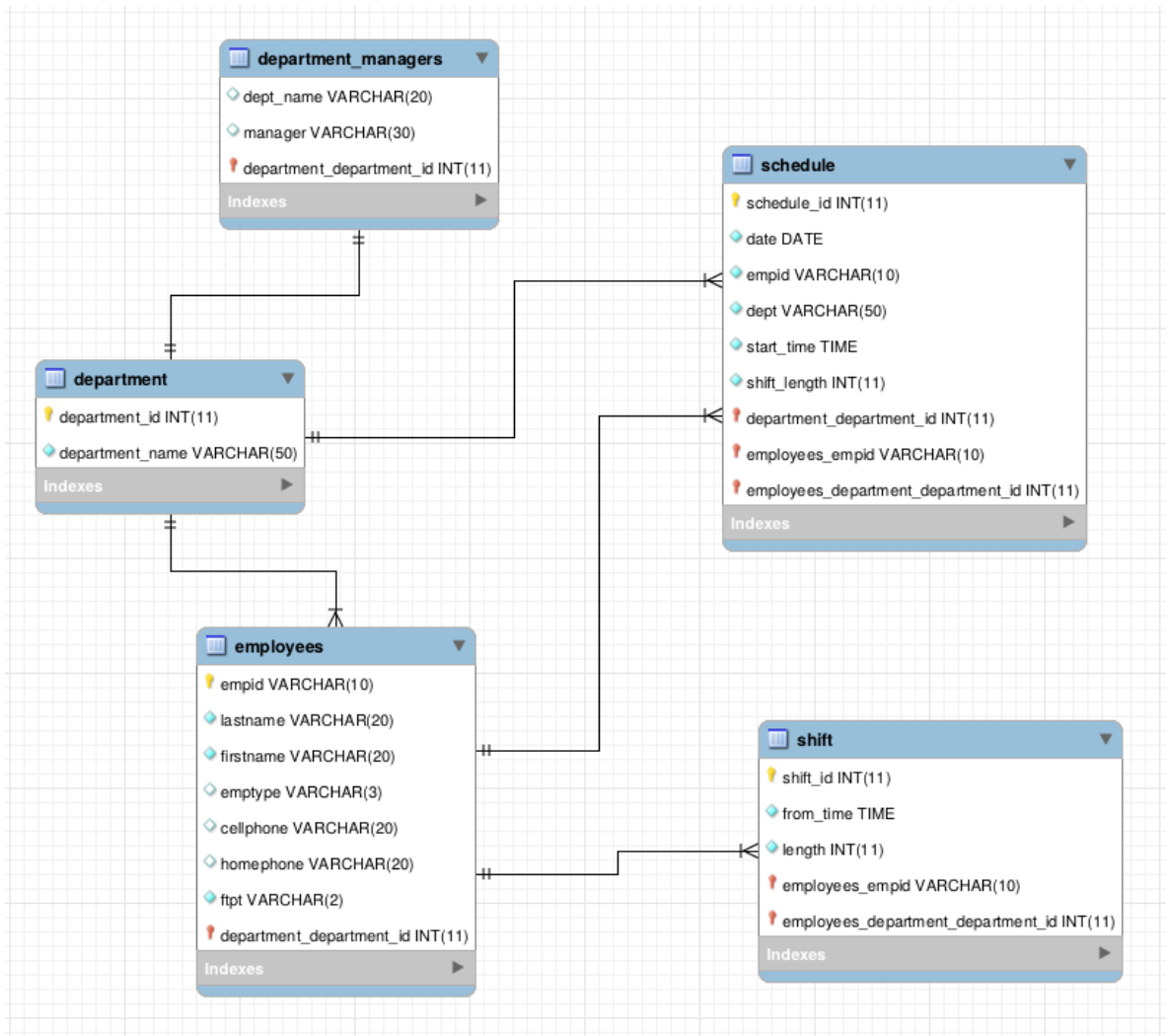
unschedule($con, $dept, $date, $empid);

    }
}

test_cases($con);

```

## ER Diagram



## Show and Describe Tables ([click for demo](#))

### php code

```
In [ ]: function showTables($con)
{
    $query = "SHOW TABLES";
    $result = mysqli_query($con, $query);

    echo "<div style='margin-left: 30%; margin-right: auto;'><h3>Show Tables:</h3></div>";

    while ($row = mysqli_fetch_assoc($result)) {
        foreach ($row as $table) {
            echo "<center><h4>$table</h4></center>";
        }
    }
}
```

```

        describeTable($con, $table);
        echo "<br>";
    }
}

function describeTable($con, $table)
{
    $query = "DESCRIBE $table";
    $result = mysqli_query($con, $query);

    echo "<table class='table table-striped' style='text-align: center' border=1>";

    while($row = mysqli_fetch_array($result)) {
        echo "<tr>\n";
        echo "<td>{$row['Field']} - {$row['Type']}</td>";
        echo "</tr>\n";
    }
    echo "</table>";
}

showTables($con);

```

**Show Tables:**

**department**

department_id - int(11)
department_name - varchar(50)

**department\_managers**

dept_name - varchar(20)
manager - varchar(30)

**employees**

empid - varchar(10)
lastname - varchar(20)
firstname - varchar(20)
emptype - varchar(3)
cellphone - varchar(20)
homephone - varchar(20)
ftpt - varchar(2)

**schedule**

schedule_id - int(11)
date - date
empid - varchar(10)
dept - varchar(50)
start_time - time
shift_length - int(11)

**shift**

shift_id - int(11)
from_time - time
length - int(11)



## Test case: randomly schedule employees ([click for demo](#))

### display test results

A capture of the PHP program executing, showing multiple executions of the `scheduleSomeone` and `unScheduleSomeone` functions, along with failing appropriate test cases (e.g., no one of that type is needed in this department and that date and shift).

**Case 1: Try to schedule someone who has already been scheduled and unschedule someone who has not been scheduled.**

Test 1:

Schedule Case 1:

Department: ONCOLOGY

Date: 10-03-2018

EmployeeID: 878397

StartTime: 23:00:00

**Employee *Mikel Whitmarsh* has already been scheduled on 2018-10-03:**

schedule_id	date	empid	dept	start_time	shift_length
4511	2018-10-03	878397	ONCOLOGY	19:00:00	12

Unschedule Case 1:

Department: EMERGENCY

Date: 09-30-2018

EmployeeID: 853537

StartTime: 23:00:00

**Employee *Manie Zaragoza* has not been scheduled, please double check!!**

### Test 3:

#### Schedule Case 3:

Department: PEDIATRICS

Date: 09-28-2018

EmployeeID: 945540

StartTime: 07:00:00

**Employee *Roderick Stager* has already been scheduled on 2018-09-28:**

schedule_id	date	empid	dept	start_time	shift_length
1421	2018-09-28	945540	PEDIATRICS	15:00:00	8

#### Unschedule Case 3:

Department: ONCOLOGY

Date: 10-01-2018

EmployeeID: 995636

StartTime: 07:00:00

**Employee *Deanna Pye* has not been scheduled, please double check!!**

**Case 2: Successfully schedule someone and unschedule someone who has not been scheduled.**

## Test 2:

### Schedule Case 2:

Department: PEDIATRICS

Date: 10-03-2018

EmployeeID: 995636

StartTime: 19:00:00

**Deanna Pye is open for schedule on 2018-10-03 starting from 19:00:00 in PEDIATRICS**

SQL Query: INSERT INTO schedule (date, empid, dept, start\_time, shift\_length) VALUES ('2018-10-03', '995636', 'PEDIATRICS', '19:00:00', 12)

**Employee Deanna Pye is scheduled on 2018-10-03 starting from 19:00:00 for 12 hours in PEDIATRICS**

### Unschedule Case 2:

Department: PEDIATRICS

Date: 10-01-2018

EmployeeID: 853537

StartTime: 19:00:00

**Employee Manie Zaragoza has not been scheduled, please double check!!**

## Case 3: Try to schedule someone who is not in the system and unschedule someone who has not been scheduled.

## Test 4:

### Schedule Case 4:

Department: EMERGENCY

Date: 10-03-2018

EmployeeID: 123456

StartTime: 23:00:00

**No Employee 123456 in the database! Please double check!**

### Unschedule Case 4:

Department: EMERGENCY

Date: 10-03-2018

EmployeeID: 898057

StartTime: 23:00:00

**Employee Lorenzo Blagg has not been scheduled, please double check!!**

**Case 4: Try to schedule someone who has already been scheduled and successfully unschedule someone.**

**Test 5:**

**Schedule Case 5:**

Department: PEDIATRICS

Date: 09-24-2018

EmployeeID: 854480

StartTime: 23:00:00

**Employee Remona Locke has already been scheduled on 2018-09-24:**

schedule_id	date	empid	dept	start_time	shift_length
4501	2018-09-24	854480	PEDIATRICS	15:00:00	8

**Unschedule Case 5:**

Department: ONCOLOGY

Date: 09-30-2018

EmployeeID: 878397

StartTime: 23:00:00

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**Employee Mikel Whitmarsh is successfully unscheduled on 2018-09-30 in the ONCOLOGY department.**

*Note\*: I did not change much about the database design and the ER diagram, but I add some test functions as required in the instruction and make the demo site better than the previous assignment.*