

DB2 Project Part 1

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1 Query 1

A student can create an account and modify their information later. (The accounts for admin and instructors are created in advance.)

1.1 Create Account

```
1 // Check if passwords match
2
3 if ($password != $confirmPassword) {
4     $error_msg = 'Passwords mismatched!';
5     goto error;
6 }
7
8 // Check if email already exists in accounts table
9 $query = "SELECT * from account where email='" . $email . "'";
10
11 if (!($account_result = $mysqli->query($query))) {
12     die('Query failed: ' . $mysqli->error);
13 }
14
15 if ($account_result->num_rows > 0) {
16     $error_msg = 'Email already used!';
17     goto error;
18 }
19
20 // Create account
21 $account_query = "INSERT INTO account (email, password, type) values ('" . $email . "
22     ', '" . $password . "', 'student')";
23 // Insert into students
24 $student_query = "INSERT INTO student (student_id, name, email, dept_name) values ('"
25     . $sid . "', '" . $name . "', '" . $email . "', NULL)";
26 $query = '';
27 // Insert into Undergrad
28 if ($type === "Undergraduate") {
29     $query = "INSERT INTO undergraduate (student_id, total_credits, class_standing)
30     values ('" . $sid . "', 0, NULL)";
31 } else if ($type === "Masters") {
32     //Insert into Masters
33     $query = "INSERT INTO master (student_id, total_credits) values ('" . $sid . "',
34     0)";
35 } else if ($type === "PhD") {
36     //Insert into PhD
37     $query = "INSERT INTO PhD (student_id, qualifier, proposal_defence_date,
38     dissertation_defence_date) values ('" . $sid . "', NULL, NULL, NULL)";
39     if (!($mysqli->query($query))) {
40         die('Query failed: ' . $mysqli->error);
41     }
42 }
43 $mysqli->begin_transaction();
44 if (!($mysqli->multi_query($account_query . $student_query . $query))) {
45     $mysqli->rollback();
46     die('Query failed: ' . $mysqli->error);
47 }
48 while ($mysqli->more_results()) {
```

```

44     $mysqli->next_result();
45 }
46 $mysqli->commit();

```

1.2 Edit Account

```

1  $student = $student_result->fetch_array(MYSQLI_ASSOC);
2
3  // Check name not null and set
4  if ($name) {
5      $query = "SELECT * FROM student WHERE name= '" . $name . "'";
6      if (!($potential_collision = $mysqli->query($query))) {
7          die('Query failed: ' . $mysqli->error);
8      }
9      $query3 = "UPDATE student SET name='" . $name . "' where name='" . $student['name']
10     . "'";
11     $mysqli->begin_transaction();
12     if (!($mysqli->query($query3))) {
13         $mysqli->rollback();
14         die('Query failed: ' . $mysqli->error);
15     } else {
16         $mysqli->commit();
17     }
18 }
19 // Check password not null and set account.password
20 if ($password) {
21     $query = "SELECT * FROM account WHERE password= '" . $password . "'";
22     if (!($potential_collision = $mysqli->query($query))) {
23         die('Query failed: ' . $mysqli->error);
24     }
25     $query4 = "UPDATE account SET password='" . $password . "' where email='" .
26     $student['email'] . "'";
27     $mysqli->begin_transaction();
28     if (!($mysqli->query($query4))) {
29         $mysqli->rollback();
30         die('Query failed: ' . $mysqli->error);
31     }
32     $mysqli->commit();
33 }
34 // Check type not null and remove from current table and insert into other
35 if ($type) {
36     $delete1 = "DELETE FROM PhD WHERE student_id= '" . $student['student_id'] . "'";
37     $delete2 = "DELETE FROM master WHERE student_id= '" . $student['student_id'] . "'";
38     $delete3 = "DELETE FROM undergraduate WHERE student_id= '" . $student['student_id']
39     . "'";
40
41     $mysqli->begin_transaction();
42     if (!($mysqli->multi_query($delete1 . $delete2 . $delete3))) {
43         $mysqli->rollback();
44         die('Query failed: ' . $mysqli->error);
45     }
46     $mysqli->commit();
47
48     while ($mysqli->more_results()) {
49         $mysqli->next_result();
50     }
51
52     if ($type === "Undergraduate") {
53         $query = "INSERT INTO undergraduate (student_id, total_credits, class_standing)
54         values ('" . $sid . "', 0, NULL)";
55     } else if ($type === "Masters") {
56         //Insert into Masters
57         $query = "INSERT INTO master (student_id, total_credits) values ('" . $sid . "
58         ', 0)";
59     } else if ($type === "PhD") {
60         //Insert into PhD
61         $query = "INSERT INTO PhD (student_id, qualifier, proposal_defence_date,
62         dissertation_defence_date) values ('" . $sid . "', NULL, NULL, NULL)";
63     }
64     if (!($mysqli->query($query))) {

```

```

59         die('Query failed: ' . $mysqli->error);
60     }
61 }
62
63 // Check email not null and not in database
64 // Update email in student table and account
65 if ($email) {
66     $query = "SELECT * from account where email='" . $email . "'";
67
68     if (!($potential_collision = $mysqli->query($query))) {
69         die('Query failed: ' . $mysqli->error);
70     }
71
72     if ($potential_collision->num_rows) {
73         die('Email already exists');
74         // goto error_page;
75     }
76
77     $query1 = "UPDATE account SET email='" . $email . "' where email='" . $student['email'] . "'";
78
79     $query2 = "UPDATE student SET email='" . $email . "' where student_id=" . $student['student_id'] . ";";
80
81     $mysqli->begin_transaction();
82     if (!($mysqli->multi_query($query1 . $query2))) {
83         $mysqli->rollback();
84         die('Query failed: ' . $mysqli->error);
85     } else {
86         while ($mysqli->more_results()) {
87             $mysqli->next_result();
88         }
89         $mysqli->commit();
90     }
91 }

```

2 Query 2

The admin will be able to create a new course section and appoint an instructor to teach the section. Every course section is scheduled to meet at a specific time slot, with a limit of two sections per time slot. Each instructor teaches one or two sections per semester. Should an instructor be assigned two sections, the two sections must be scheduled in consecutive time slots.

```

1 // Get time slot details
2 $query = "SELECT * from time_slot where time_slot_id='" . $time_slot_id . "'";
3
4 if (!($time_result = $mysqli->query($query)) || $time_result->num_rows == 0) {
5     die("Query failed or time slot not found: " . $mysqli->error);
6 }
7
8 $time_slot = $time_result->fetch_array(MYSQLI_ASSOC);
9
10 // Get instructor details
11 $query = "SELECT * from instructor where instructor_id=" . $instructor_id;
12
13 if (!($instructor_result = $mysqli->query($query)) || $instructor_result->num_rows == 0) {
14     die("Query failed or instructor not found: " . $mysqli->error);
15 }
16
17 $instructor = $instructor_result->fetch_array(MYSQLI_ASSOC);
18
19 // Verify section id does not exist
20 $query = "SELECT * from section where course_id='" . $course_id . "'and section_id='" . $section_id . "' and semester='" . $semester . "' and year=" . $year . "'";
21
22 if (!($section_result = $mysqli->query($query))) {
23     die("Query failed: " . $mysqli->error);
24 }
25 if ($section_result->num_rows > 0) {

```

```

26     $error_msg = "Section ID already exists in this semester";
27     goto error;
28 }
29
30 // Check how many sections are running at time slot
31 $query = "SELECT * from section where course_id='" . $course_id . "' and semester='" .
    $semester . "' and year='" . $year . "' and time_slot_id='" . $time_slot_id . "'";
32
33 if (!($section_result = $mysqli->query($query))) {
34     die("Query failed: " . $mysqli->error);
35 }
36
37 if ($section_result->num_rows >= 2) {
38     $error_msg = "Attempting to create too many sections at this time slot";
39     goto error;
40 }
41
42 // Check how many classes the instructor is teaching as well as verify time slots are
    back to back
43
44 $query = "SELECT * from section where semester='" . $semester . "' and year='" . $year
    . "' and instructor_id='" . $instructor_id . "'";
45
46 if (!($section_result = $mysqli->query($query))) {
47     die("Query failed: " . $mysqli->error);
48 }
49
50 if ($section_result->num_rows >= 2) {
51     $error_msg = "Attempting to assign too many sections to one teacher";
52     goto error;
53 } else if ($section_result->num_rows === 1) {
54     $instructor_section = $section_result->fetch_assoc();
55
56     $query = "SELECT * from time_slot where time_slot_id='" . $instructor_section['
        time_slot_id'] . "'";
57
58     if (!($time_result = $mysqli->query($query)) || !$time_result->num_rows) {
59         die("Query failed or couldn't look up time_slot: " . $mysqli->error);
60     }
61
62     $section_time_slot = $time_result->fetch_assoc();
63
64     if ($time_slot['day'] !== $section_time_slot['day']) {
65         $error_msg = "Time slots are not consecutive";
66         goto error;
67     }
68     $time1 = $time_slot['start_time'];
69     $split = explode(":", $time1);
70     $h1 = (int)$split[0];
71     $m1 = (int)$split[1];
72     $time2 = $section_time_slot['start_time'];
73     $split = explode(":", $time2);
74     $h2 = (int)$split[0];
75     $m2 = (int)$split[1];
76     if ($time_slot['day'] === "MoWeFr") {
77         if (!($m1 === $m2 && ($h1 === $h2 + 1 || $h1 === $h2 - 1))) {
78             $error_msg = "Time slots are not consecutive";
79             goto error;
80         }
81     } else {
82         // day === TuTh
83         $h1 += $m1 / 60;
84         $h2 += $m2 / 60;
85         if (!($h1 + 3 / 2 == $h2 || $h2 + 3 / 2 == $h1)) {
86             $error_msg = "Time slots are not consecutive";
87             goto error;
88         }
89     }
90 }
91

```

```

92 $query = "insert into section (course_id, section_id, semester, year, instructor_id,
    time_slot_id) value ('" . $course_id . "', '" . $section_id . "', '" . $semester .
    "', '" . $year . "', '" . $instructor_id . "', '" . $time_slot_id . "')";
93 if (!($insert_result = $mysqli->query($query))) {
94     die("Query failed: " . $mysqli->error);
95 }

```

3 Query 3

A student can browse all the courses offered in the current semester and can register for a specific section of a course if they satisfy the prerequisite conditions and there is available space in the section. (Assume each section is limited to 15 students).

3.1 A student can view all courses in the current semester

```

1  $query = "SELECT * FROM semester where status='Current'";
2
3      if (!($current_result = $mysqli->query($query)) || !$current_result->num_rows)
4      {
5          die("Query failed: $mysqli->error");
6      }
7
8      $current_semester = $current_result->fetch_assoc();
9
10     function createRows($mysqli, $query, $current_semester)
11     {
12         $courses = $mysqli->query($query . " and s.semester='{ $current_semester['
semester']}' and s.year={ $current_semester['year'] }");
13         if (!$courses) {
14             die("Courses query failed Sections: " . $mysqli->error);
15         }
16
17         while ($row = $courses->fetch_array(MYSQLI_ASSOC)) {
18
19             $query = "SELECT * from take where course_id='{ $row['course_id'] }' and
section_id='{ $row['section_id'] }' and semester='{ $row['semester'] }' and year='{
$row['year'] }'";
20
21             if (!($query_result = $mysqli->query($query))) {
22                 die("Query Failed");
23             }
24
25             echo '<tr>';
26             echo '<td>' . $row['course_name'] . '</td>';
27             echo '<td>' . $row['section_id'] . '</td>';
28             // echo '<td>' . $row['semester'] . '</td>';
29             // echo '<td>' . $row['year'] . '</td>';
30             // echo '<td>' . ($row['instructor_id'] ? $row['instructor_id'] : "<
form action='./section_assign.php' method='post'><button name='update' value
='{"$row['course_id']} {"$row['section_id']} {"$row['semester']} {"$row['year']} ">
Update</button></form>") . '</td>';
31             echo '<td>' . ($row['instructor_name'] ? $row['instructor_name'] : '
Not Assigned') . '</td>';
32             // echo '<td>' . ($row['time_slot_id'] ? $row['time_slot_id'] : 'Not
Assigned') . '</td>';
33             echo '<td>' . ($row['day'] ? $row['day'] : 'Not Assigned') . '</td>';
34             echo '<td>' . ($row['start_time'] ? $row['start_time'] : 'Not Assigned
') . '</td>';
35             echo '<td>' . ($row['end_time'] ? $row['end_time'] : 'Not Assigned') .
'</td>';
36             echo "&td>{$query_result->num_rows}/15</td>";
37             echo '<td>
<form action="" method="post">';
38
39
40

```

```

41         echo          '<input type="hidden" name="course_id" value="' . $row['
course_id'] . '"/>';
42         echo          '<input type="hidden" name="section_id" value="' . $row['
section_id'] . '"/>';
43         echo          '<input type="hidden" name="semester" value="' . $row['
semester'] . '"/>';
44         echo          '<input type="hidden" name="year" value="' . $row['year']
. '"/>';
45         echo          '<input type="submit" value="Register" />
46         </form></td>';
47         echo '</tr>';
48     }
49 }
50
51     $query = "SELECT * from course c, section s, instructor i, time_slot t where c
.course_id=s.course_id and s.instructor_id=i.instructor_id and s.time_slot_id=t.
time_slot_id";
52     createRows($mysqli, $query, $current_semester);
53
54     $query = "SELECT * from course c, section s, time_slot t where c.course_id=s.
course_id and s.instructor_id is null and s.time_slot_id=t.time_slot_id";
55     createRows($mysqli, $query, $current_semester);
56
57     $query = "SELECT * from course c, section s, instructor i where c.course_id=s.
course_id and s.instructor_id=i.instructor_id and s.time_slot_id is null";
58     createRows($mysqli, $query, $current_semester);
59
60     $query = "SELECT * from course c, section s where c.course_id=s.course_id and
instructor_id is null and time_slot_id is null";
61     createRows($mysqli, $query, $current_semester);

```

3.2 A student can register for a specific course if they satisfy the prerequisites and there is available space

```

1  if ($_SERVER['REQUEST_METHOD'] === 'POST') {
2      $selected_course_id = $_POST['course_id'];
3      $selected_section_id = $_POST['section_id'];
4      $selected_year = $_POST['year'];
5      $selected_semester = $_POST['semester'];
6
7      //Check available space in the selected section
8      $query_enrollment = "SELECT COUNT(*) as num_students FROM take WHERE course_id='
$selected_course_id' AND section_id='$selected_section_id' AND semester='
$selected_semester' AND year=$selected_year";
9      if (!($enrollment_result = $mysqli->query($query_enrollment))) {
10         die("Query failed $mysqli->error");
11     }
12     $enrollment_data = $enrollment_result->fetch_assoc();
13     $num_students = $enrollment_data['num_students'];
14
15     //check if there is available space
16     if ($num_students >= 15) {
17         $error_msg = 'Class is full';
18         goto student_register;
19     }
20
21     $query = "SELECT * from take where student_id='$student_id'";
22     if (!($classes_result = $mysqli->query($query))) {
23         die("Query failed $mysqli->error");
24     }
25
26     $classes_taken = $classes_result->fetch_all(MYSQLI_ASSOC);
27
28     $query = "SELECT * from prereq where course_id='$selected_course_id'";
29     if (!($prereq_result = $mysqli->query($query))) {
30         die("Query failed $mysqli->error");
31     }
32     $prereq_classes = $prereq_result->fetch_all(MYSQLI_ASSOC);
33
34     function checkClasses($prereq_classes, $classes_taken)
35     {

```

```

36         foreach ($prereq_classes as $prereq) {
37             $satisfied = false;
38             foreach ($classes_taken as $class) {
39                 if ($prereq['prereq_id'] == $class['course_id']) {
40                     $satisfied = true;
41                     break;
42                 }
43             }
44             if (!$satisfied) {
45                 return false;
46             }
47         }
48         return true;
49     }
50
51     $satisfied = checkClasses($prereq_classes, $classes_taken);
52
53     if (!$satisfied) {
54         $error_msg = 'Prereqs not satisfied';
55         goto student_register;
56     }
57
58     $query = "SELECT * from undergraduate where student_id='$student_id'";
59     if (!($query_result = $mysqli->query($query))) {
60         die("Query failed . $mysqli->error");
61     }
62
63     if ($query_result->num_rows) {
64         $row = $query_result->fetch_assoc();
65         if ($row['hold'] === 'HOLD') {
66             $error_msg = 'You have an advising hold. Meet with advisor.';
67             goto student_register;
68         }
69     }
70
71     $query = "INSERT into take (student_id, course_id, section_id, semester, year)
72     values ('$student_id', '$selected_course_id', '$selected_section_id', '
73     $selected_semester', $selected_year)";
74
75     if (!($query_result = $mysqli->query($query))) {
76         die("Query failed . $mysqli->error");
77     }
78
79     header("Location: dashboard.php");
80
81     die("Unknown error");
82 }

```

4 Query 4

A student can view a list of all courses they have taken and are currently taking, along with the total number of credits earned and their cumulative GPA.

4.1 Course student have or has taken

```

1  <?php
2  $courses = $mysqli->query("SELECT * from take where student_id=" . $student['
3  student_id'] . ";");
4  if (!$courses) {
5      die("Courses query failed");
6  }
7
8  while ($row = $courses->fetch_array(MYSQLI_ASSOC)) {
9      echo '<tr>';
10     echo '<td>' . $row['course_id'] . '</td>';
11     echo '<td>' . $row['section_id'] . '</td>';
12     echo '<td>' . $row['semester'] . '</td>';
13     echo '<td>' . $row['year'] . '</td>';
14     echo '<td>' . $row['grade'] . '</td>';

```

```

14         echo '</tr>';
15     }
16     ?>

```

4.2 GPA and Credits

```

1 $gradePoints = array(
2     'A+' => 4.0,
3     'A'  => 4.0,
4     'A-' => 3.7,
5     'B+' => 3.3,
6     'B'  => 3.0,
7     'B-' => 2.7,
8     'C+' => 2.3,
9     'C'  => 2.0,
10    'C-' => 1.7,
11    'D+' => 1.3,
12    'D'  => 1.0,
13    'D-' => 0.7,
14    'F'  => 0.0
15 );
16
17 $query = "SELECT t.grade as grade, c.credits as credits FROM take t, course c WHERE t.
18         student_id=" . $student['student_id'] . " AND t.course_id = c.course_id;";
19
20 $result = $mysqli->query($query);
21
22 if (!$result) {
23     die("Query failed: " . $mysqli->error);
24 }
25
26 $total_credits = 0.0;
27 $total = 0.0;
28 while ($row = $result->fetch_array(MYSQLI_ASSOC)) {
29     $total_credits += $row['credits'];
30     $grade = $gradePoints[$row['grade']] * $row['credits'];
31     $total += $grade;
32 }
33
34 if ($total_credits) {
35     $gpa = $total / $total_credits;
36 } else {
37     $gpa = "N/A";
38 }

```

5 Query 5

Instructors have access to records of all course sections they have taught, including names of current semester's enrolled students and the names and grades of students from past semesters.

```

1 instructor_dashboard:
2
3 $instructor_result = $mysqli->query($query);
4 if (!$instructor_result) {
5     die('Query failed: ' . $mysqli->error);
6 }
7 // Student[student_id, name, email, dept_name]
8 $instructor = $instructor_result->fetch_array(MYSQLI_ASSOC);
9
10 setcookie('instructor_id', $instructor['instructor_id'], time() + (86400 * 30), "/");
11 setcookie('student_id', '', time() - 3600, "/");
12 setcookie('admin_id', '', time() - 3600, "/");
13
14 $instructor_id = $instructor['instructor_id'];
15
16 $courses = $mysqli->query("SELECT * from section where instructor_id={$instructor['
17     instructor_id']} ORDER BY year, semester;");
18 if (!$courses) {
19     die("Courses query failed");
20 }

```



```

20
21     while ($row = $courses->fetch_array(MYSQLI_ASSOC)) {
22         echo '<tr>';
23         echo '<td>' . $row['course_id'] . '</td>';
24         echo '<td>' . $row['section_id'] . '</td>';
25         echo '<td>' . $row['semester'] . '</td>';
26         echo '<td>' . $row['year'] . '</td>';
27         echo '<td>';
28         echo '<form action="instructor_view_students.php" method="post">';
29         echo '<input type="hidden" name="course_id" value="' . $row['
course_id'] . '"/>';
30         echo '<input type="hidden" name="section_id" value="' . $row['
section_id'] . '"/>';
31         echo '<input type="hidden" name="semester" value="' . $row['
semester'] . '"/>';
32         echo '<input type="hidden" name="year" value="' . $row['year'] . '
"/>';
33         echo '<input type="submit" value="View Students Report" />
</form></td>';
34         echo '</td>';
35         echo '</tr>';
36     }
37     ?>
38

```

6 Query 6

Teaching Assistants (TAs), who are PhD students, will be assigned by the admin to sections with more than 10 students. A PhD student is eligible to be a TA for only one section.

6.1 Teaching Assistants (TAs), who are PhD students, will be assigned by the admin to sections with more than 10 students.

```

1 $query = "SELECT * from TA t, student s where t.student_id = s.student_id and
course_id='{ $row['course_id'] }' and section_id='{ $row['section_id'] }' and semester
='{ $row['semester'] }' and year={ $row['year'] }";
2
3 if (!($query_result = $mysqli->query($query))) {
4     die("Query failed Sections: " . $mysqli->error);
5 }
6
7 $ta_button = '';
8 if ($query_result->num_rows) {
9     $row = $query_result->fetch_assoc();
10    $ta_button = "{$row['student_id']} - {$row['name']}";
11 } else if ($status === 'Past') {
12    $ta_button = '-';
13 } else {
14    $query = "SELECT * from take WHERE course_id='{ $row['course_id'] }' and section_id
='{ $row['section_id'] }' and semester='{ $row['semester'] }' and year={ $row['year'] }";
15    if (!($query_result = $mysqli->query($query))) {
16        die("Query failed Sections: " . $mysqli->error);
17    }
18    if ($query_result->num_rows > 10) {
19        $ta_button = "<form action=\"./section_ta_assign.php\" method=\"post\"><button
name=\"assign\" value=\"{ $row['course_id'] }{ $row['section_id'] }{ $row['semester']
}{ $row['year'] }\">Assign</button></form>";
20    } else {
21        $ta_button = "< 10";
22    }
23 }

```

6.2 A PhD student is eligible to be a TA for only one section.

```

1 $query = "SELECT * from PhD p, student s where s.student_id=p.student_id and p.
student_id not in ( SELECT t.student_id from TA t where t.semester='{ $semester }' and
t.year={ $year } )";
2

```

```

3 if (!($available_result = $mysqli->query($query))) {
4     die("Query failed or could not find course to update: " . $mysqli->error);
5 }
6
7 while ($row = $available_result->fetch_array(MYSQLI_ASSOC)) {
8
9     echo "<option value=\"\" . $row['student_id'] . "\">" . $row['student_id'] . '-' .
        $row['name'] . "</option>";
10 }

```

7 Query 7

Grader positions for sections with 5 to 10 students will be assigned by the admin with either MS students or undergraduate students who have got A- or A in the course. If there are more than one qualified candidates, the admin will choose one as the grader. A student may serve as a grader for only one section.

7.1 Admin can assign a grader for a class with 5-10 students

```

1 $grader_button = '';
2 if ($query_result->num_rows) {
3     $row = $query_result->fetch_assoc();
4     $grader_button = "{$row['student_id']} - {$row['name']}";
5 } else if ($status === 'Past') {
6     $grader_button = '-';
7 } else {
8     $query = "SELECT * from take WHERE course_id='{$row['course_id']}' and section_id=
        '{$row['section_id']}' and semester='{$row['semester']}' and year='{$row['year']}'";
9     if (!($query_result = $mysqli->query($query))) {
10         die("Query failed Sections: " . $mysqli->error);
11     }
12     if ($query_result->num_rows > 10) {
13         $grader_button = "> 10";
14     } else if ($query_result->num_rows >= 5) {
15         $grader_button = "<form action=\"./section_grader_assign.php\" method=\"post
        \"><button name=\"assign\" value=\"{$row['course_id']}{$row['section_id']}{$row['
        semester']}{$row['year']}\">Assign</button></form>";
16     } else {
17         $grader_button = "< 5";
18     }
19 }

```

7.2 If there are more than one qualified candidates, the admin will choose one as the grader. A student may serve as a grader for only one section.

```

1 $query = "SELECT * from take t, student s where t.student_id=s.student_id and (t.grade
    ='A+' or t.grade='A' or t.grade='A-') and t.student_id in (SELECT student_id from
    undergraduate) and t.student_id not in (SELECT student_id from undergraduateGrader
    where semester='{$semester}' and year=$year)";
2 if (!($available_result = $mysqli->query($query))) {
3     die("Query failed or could not find course to update: " . $mysqli->error);
4 }
5
6 while ($row = $available_result->fetch_array(MYSQLI_ASSOC)) {
7
8     echo "<option value=\"\" . $row['student_id'] . "\">" . $row['student_id'] . '-' .
        $row['name'] . "</option>";
9 }
10
11
12 $query = "SELECT * from take t, student s where t.student_id=s.student_id and (t.grade
    ='A+' or t.grade='A' or t.grade='A-') and t.student_id in (SELECT student_id from
    master) and t.student_id not in (SELECT student_id from masterGrader where semester
   ='{$semester}' and year=$year)";
13 if (!($available_result = $mysqli->query($query))) {
14     die("Query failed or could not find course to update: " . $mysqli->error);
15 }
16

```

```

17 while ($row = $available_result->fetch_assoc()) {
18
19     echo "<option value=\"\" . $row['student_id'] . "\">\" . $row['student_id'] . \"-\" .
        $row['name'] . "</option>\";
20 }

```

8 Query 8

The admin or instructor can appoint one or two instructors as advisor(s) for PhD students, including a start date, and optional end date. The advisor will be able to view the course history of their advisees, and update their advisees' information. (10 points)

8.1 The admin or instructor can appoint one or two instructors as advisor(s) for PhD students, including a start date, and optional end date.

```

1 if ($_SERVER['REQUEST_METHOD'] === 'POST') {
2     if ($_POST['assign']) {
3         goto advisor_assign;
4     }
5     $student_id = $_POST['student_id'];
6     $instructor_id = $_POST['instructor_id'];
7     $start_date = $_POST['start_date'];
8     $end_date = $_POST['end_date'];
9
10    if (!$student_id || !$instructor_id || !$start_date) {
11        $error_msg = "Fields missing or empty";
12        goto error;
13    }
14
15    $start_date = date('Y-m-d', strtotime($start_date));
16    if ($end_date) {
17        $end_date = date('Y-m-d', strtotime($end_date));
18        $query = "INSERT into advise(instructor_id, student_id, start_date, end_date)
        values ('$instructor_id', '$student_id', '$start_date', '$end_date')";
19    } else {
20        $query = "INSERT into advise(instructor_id, student_id, start_date) values (
        '$instructor_id', '$student_id', '$start_date')";
21    }
22
23    if (!($query_result = $mysqli->query($query))) {
24        die("Query failed: $mysqli->error");
25    }
26
27    header("Location: ./advisor_panel.php");
28    die("Unexpected error");
29 }
30 goto advisor_assign;
31 ?>
32 <?php

```

8.2 The advisor will be able to view the course history of their advisees,

```

1 <?php
2
3 $mysqli = new mysqli('localhost', 'root', '');
4
5 if ($mysqli->connect_errno) {
6     die('Could not connect: ' . $mysqli->connect_error);
7 }
8
9 if (!$mysqli->select_db('DB2')) {
10     die('Could not select database');
11 }
12
13 if (!isset($_COOKIE['instructor_id']) || $_COOKIE['instructor_id'] === '') {
14     die("Please login to an instructor account");
15     // goto error_login;
16 }

```

```

17
18 if ($_SERVER['REQUEST_METHOD'] === 'POST') {
19     if (!$_POST['courses']) {
20         die("No student given");
21     }
22
23     $student_id = $_POST['courses'];
24
25     $query = "SELECT * FROM take WHERE student_id='$student_id'";
26 } else {
27     die("Should not have happened");
28 }
29 ?>
30
31 <html>
32
33 <head>
34     <meta charset="UTF-8">
35     <title>Viewing Student Courses System</title>
36 </head>
37 <style>
38     table,
39     th,
40     td {
41         border: 1px solid black;
42     }
43 </style>
44
45 <body>
46     <h1>University Management System</h1>
47     <?php
48
49     echo '<h2> Student ' . $student_id . '</h2>';
50
51     ?>
52     <h3>History and Grades:</h3>
53     <table>
54         <tr>
55             <th>Course ID</th>
56             <th>Section ID</th>
57             <th>Semester</th>
58             <th>Year</th>
59             <th>Grade</th>
60         </tr>
61         <?php
62         $courses = $mysqli->query("SELECT * from take where student_id=" . $student_id
63         . " ");
64         if (!$courses) {
65             die("Courses query failed");
66         }
67
68         while ($row = $courses->fetch_array(MYSQLI_ASSOC)) {
69             echo '<tr>';
70             echo '<td>' . $row['course_id'] . '</td>';
71             echo '<td>' . $row['section_id'] . '</td>';
72             echo '<td>' . $row['semester'] . '</td>';
73             echo '<td>' . $row['year'] . '</td>';
74             echo '<td>' . $row['grade'] . '</td>';
75             echo '</tr>';
76         }
77     ?>
78     </table>
79 </body>
80 </html>

```

8.3 The advisor will be able to update their advisees' information,

```

1 <?php
2 $mysqli = new mysqli('localhost', 'root', '');
3

```

```

4 if ($mysqli->connect_errno) {
5     die('Could not connect: ' . $mysqli->connect_error);
6 }
7
8 if (!$mysqli->select_db('DB2')) {
9     die('Could not select database');
10 }
11
12 if (!isset($_COOKIE['instructor_id']) || $_COOKIE['instructor_id'] === '') {
13     die("Please login to an instructor account");
14     // goto error_login;
15 }
16 if ($_SERVER['REQUEST_METHOD'] === 'POST') {
17
18     if ($_POST['update']) {
19         goto phd_edit;
20     }
21
22     $student_id = $_POST['student_id'];
23     $qualifier = $_POST['qualifier'];
24     $proposal_defense_date = $_POST['proposal_defense_date'];
25     $dissertation_defense_date = $_POST['dissertation_defense_date'];
26
27     $query = "SELECT * from Phd where student_id=" . $student_id . ";";
28     if (!($student_result = $mysqli->query($query))) {
29         die('Query failed: ' . $mysqli->error);
30     }
31
32     if (!$student_result->num_rows) {
33         die("Student doesn't exist");
34     }
35
36     $student = $student_result->fetch_assoc();
37
38     // Check qualifier not null and set
39     if ($qualifier) {
40         $query = "UPDATE Phd SET qualifier='" . $qualifier . "' where student_id='" .
41             $student_id . "';";
42         if (!$mysqli->query($query)) {
43             die("Query failed: $mysqli->error");
44         }
45     }
46     // Check password not null and set account.password
47     if ($proposal_defense_date) {
48         $date = date('Y-m-d', strtotime($proposal_defense_date));
49
50         $query = "UPDATE Phd SET proposal_defense_date='" . $date . "' where
51             student_id='" . $student_id . "';";
52         if (!$mysqli->query($query)) {
53             die('Query failed: ' . $mysqli->error);
54         }
55     }
56     if ($dissertation_defense_date) {
57         $date = date('Y-m-d', strtotime($dissertation_defense_date));
58
59         $query = "UPDATE Phd SET dissertation_defense_date='" .
60             $dissertation_defense_date . "' where student_id='" . $student_id . "';";
61         if (!$mysqli->query($query)) {
62             die('Query failed: ' . $mysqli->error);
63         }
64     }
65
66     header("Location: ./dashboard.php");
67     exit("This should not have happened");
68 }
69 die("Please post student_id");
70
71 phd_edit:
72 $student_id = $_POST['update'];

```

```

72 ?>
73
74
75
76 <html>
77
78 <head>
79     <meta charset="UTF-8">
80     <title>University Management System: Update PhD Student Information</title>
81 </head>
82
83 <body>
84     <h1>Update PhD Student Information</h1>
85     <form action="" method="post">
86         <table>
87             <tr>
88                 <?php echo '<input type="hidden" name="student_id" value="' .
89                 $student_id . '" />'; ?>
90             </tr>
91             <tr>
92                 <td><label for="qualifier">Qualifier:</label></td>
93                 <td><input type="text" name="qualifier" value="" maxlength="30"></td>
94             </tr>
95             <tr>
96                 <td><label for="proposal_defense_date">Proposal Defense Date:</label>
97                 <td><input type="date" name="proposal_defense_date"></td>
98             </tr>
99             <tr>
100                 <td><label for="dissertation_defense_date">Dissertation Defense Date
101                 :</label></td>
102                 <td><input type="date" name="dissertation_defense_date"></td>
103             </tr>
104         </table>
105         <input type="submit" value="Update Account">
106     </form>
</body>

```

9 Query 9

Admins can assign and edit classrooms, make sure rooms aren't overbooked.

```

1  if (!$course_id || !$section_id || !$semester || !$year || !$classroom_id) {
2      $error_msg = "Missing classroom";
3      goto error;
4  }
5
6  $query = "SELECT * FROM section where course_id='$course_id' and section_id='
7  $section_id' and semester='$semester' and year=$year";
8  if (!$query_result = $mysqli->query($query)) {
9      die("Query failed: " . $mysqli->error);
10 }
11 $section = $query_result->fetch_assoc();
12 $time_slot_id = $section['time_slot_id'];
13 if (!$time_slot_id) {
14     $error_msg = 'Please assign time slot first';
15     goto error;
16 }
17 if ($section['classroom_id']) {
18     $query = "UPDATE section set classroom_id=NULL WHERE course_id='$course_id'
19 and section_id='$section_id' and semester='$semester' and year=$year";
20 if (!$mysqli->query($query)) {
21     die('Query failed: ' . $mysqli->error);
22 }
23 }
24 $query = "SELECT * FROM section where classroom_id = '$classroom_id' and
25 time_slot_id='$time_slot_id' and semester='$semester' and year=$year";
26 if (!$potential_collision = $mysqli->query($query)) {
27     die('Query failed: ' . $mysqli->error);
28 }

```

```

26     }
27     if ($potential_collision->num_rows) {
28         $error_msg = 'This time and location is already in use';
29         goto error;
30     }
31
32     $query = "UPDATE section set classroom_id= '$classroom_id' WHERE course_id='
33     $course_id' and section_id='$section_id' and semester='$semester' and year=$year";
34     if (!$mysqli->query($query)) {
35         die('Query failed: ' . $mysqli->error);
36     }
37
38     header("Location: ../dashboard.php");
39     die("Unexpected error");
40 }
41 goto section_classroom_assign;

```

10 Query 10

Undergraduate students can be assigned advisors. The advisor will be able to view the course history of their advisees and add a hold to their account preventing them from registering in classes

10.1 Undergraduate students can be assigned advisors

```

1  if ($_SERVER['REQUEST_METHOD'] === 'POST') {
2      if ($_POST['assign']) {
3          goto advisor_assign;
4      }
5      $student_id = $_POST['student_id'];
6      $instructor_id = $_POST['instructor_id'];
7      $start_date = $_POST['start_date'];
8      $end_date = $_POST['end_date'];
9
10     if (!$student_id || !$instructor_id || !$start_date) {
11         $error_msg = "Fields missing or empty";
12         goto error;
13     }
14
15     $start_date = date('Y-m-d', strtotime($start_date));
16     if ($end_date) {
17         $end_date = date('Y-m-d', strtotime($end_date));
18         $query = "INSERT into advise_undergraduate(instructor_id, student_id,
19         start_date, end_date) values ('$instructor_id', '$student_id', '$start_date', '
20         $end_date')";
21     } else {
22         $query = "INSERT into advise_undergraduate(instructor_id, student_id,
23         start_date) values ('$instructor_id', '$student_id', '$start_date')";
24     }
25
26     if (!($query_result = $mysqli->query($query))) {
27         die("Query failed: $mysqli->error");
28     }
29
30     header("Location: ../advisor_panel.php");
31     die("Unexpected error");
32 }
33 goto advisor_assign;
34 ?>
35 <?php
36 error:
37
38 advisor_assign:
39 $student_id = $_POST['assign'];
40 ?>
41 <html>

```

```

41 <head>
42 <meta charset="UTF-8">
43 <title>University Management System</title>
44 </head>
45
46 <body>
47 <h1>University Management System</h1>
48
49 <h3>Assign Advisor</h3>
50 <form method="post">
51 <table>
52 <tr>
53 <td><label for="student_id">Student ID:</label></td>
54 <td>
55 <input type="hidden" name="student_id" value="php echo
56 $student_id; ?" />
57 <p><?php echo $student_id; ?></p>
58 </td>
59 </tr>
60 <tr>
61 <td><label for="instructor_id">Available Advisors:</label></td>
62 <td>
63 <select name="instructor_id">
64 <?php
65 $query = "SELECT * from instructor s where s.instructor_id not
66 in (SELECT a.instructor_id from advise a where a.student_id='<?php echo $student_id; ?>')";
67 if (!($available_result = $mysqli->query($query))) {
68 die("Query failed or could not find course to update: " .
69 $mysqli->error);
70 }
71 while ($row = $available_result->fetch_array(MYSQLI_ASSOC)) {
72 echo "<option value=\"<?php echo $row['instructor_id']; ?>\" .
73 $row['instructor_id'] . \">\" . $row['instructor_name'] . \"</option>\";
74 }
75 </select>
76 </td>
77 </tr>
78 <tr>
79 <td><label for="start_date">Start Date:</label></td>
80 <td>
81 <input type="date" name="start_date">
82 </td>
83 </tr>
84 <tr>
85 <td><label for="end_date">End Date:</label></td>
86 <td>
87 <input type="date" name="end_date">
88 </td>
89 </tr>
90 <?php
91 if ($error_msg) {
92 echo '<tr><td colspan="3">' . $error_msg . '</td></tr>';
93 }
94 <?>
95 <tr>
96 <td><input type="submit" name="Update" /></td>
97 </tr>
98 </table>
99 </form>
100 </body>
101 </html>

```

10.2 The advisor will be able to view the course history of their advisees

```

1 <h3>PhD Advising
2 </h3>

```



```

3      <table>
4          <tr>
5              <th>Student ID</th>
6              <th>Name</th>
7              <th>Qualifier</th>
8              <th>Proposal Defense Date</th>
9              <th>Dissertation Defense Date</th>
10             <th>Courses</th>
11             <th>Update</th>
12         </tr>
13
14         <?php
15             $query = "SELECT * FROM advise a, student s, PhD p where a.instructor_id='
16             $instructor_id' and a.student_id=s.student_id and a.student_id=p.student_id";
17
18             if (!($phd_students = $mysqli->query($query))) {
19                 die("Query failed: $mysqli->error");
20             }
21
22             while ($row = $phd_students->fetch_assoc()) {
23                 echo '<tr>';
24                 echo "<td>{$row['student_id']}</td>";
25                 echo "<td>{$row['name']}</td>";
26                 echo "<td>{$row['qualifier']}</td>";
27                 echo "<td>{$row['proposal_defense_date']}</td>";
28                 echo "<td>{$row['dissertation_defense_date']}</td>";
29                 echo '<td>';
30                 echo '<form action="advisee_courses.php" method="post">';
31                 echo '<button name="courses" value="' . $row['student_id'] . '">
32                 View</button>';
33                 echo '</form></td>';
34                 echo '</td>';
35                 echo '<td>';
36                 echo '<form action="phd_edit.php" method="post">';
37                 echo '<button name="update" value="' . $row['student_id'] . '">
38                 Update</button>';
39                 echo '</form></td>';
40                 echo '</td>';
41                 echo '</tr>';
42             }
43
44         ?>
45     </table>
46
47     <h3>
48         Undergraduate Advising
49     </h3>
50     <table>
51         <tr>
52             <th>Student ID</th>
53             <th>Name</th>
54             <th>Hold Status</th>
55             <th>Toggle Hold</th>
56         </tr>
57
58         <?php
59             $query = "SELECT * FROM advise_undergraduate a, student s, undergraduate u
60             where a.instructor_id=' $instructor_id' and a.student_id=s.student_id and a.
61             student_id=u.student_id";
62
63             if (!($undergrad_result = $mysqli->query($query))) {
64                 die("Query failed: $mysqli->error");
65             }
66
67             while ($row = $undergrad_result->fetch_assoc()) {
68                 echo '<tr>';
69                 echo "<td>{$row['student_id']}</td>";
70                 echo "<td>{$row['name']}</td>";
71
72                 echo "<td>";

```

```

69         echo $row['hold'] ? 'HOLD' : 'NO HOLD';
70         echo "</td>";
71
72         echo '<td>';
73         echo '<form action="advisor_toggle_hold.php" method="post">';
74         echo '<button name="student_id" value="' . $row['student_id'] . '">';
75         Toggle Hold</button>';
76         echo '</form></td>';
77         echo '</td>';
78     }
79     ?>
80 </table>
81 <form action="./advisor_panel.php" method="get">
82     <input type="submit" value="Appoint Advisor" />
83 </form>
84 </body>
85
86 </html>

```

10.3 The advisor will be able to add a hold to their advisees' account preventing them from registering in classes

```

1 <?php
2
3 $mysqli = new mysqli('localhost', 'root', '');
4
5 if ($mysqli->connect_errno) {
6     die('Could not connect: ' . $mysqli->connect_error);
7 }
8
9 if (!$mysqli->select_db('DB2')) {
10     die('Could not select database');
11 }
12
13 if (!isset($_COOKIE['instructor_id']) || $_COOKIE['instructor_id'] === '') {
14     die("Please login to an instructor account");
15     // goto error_login;
16 }
17
18 if ($_SERVER['REQUEST_METHOD'] === 'POST') {
19     $student_id = $_POST['student_id'];
20
21     if (!$student_id) {
22         die("Please Post student_id");
23     }
24
25     $query = "SELECT * FROM undergraduate where student_id='$student_id'";
26
27     if (!($student_result = $mysqli->query($query)) || $student_result->num_rows == 0)
28     {
29         die("Query Failed or student does not exist: $mysqli->error");
30     }
31
32     $student = $student_result->fetch_assoc();
33
34     if ($student['hold'] === "HOLD") {
35         $query = "UPDATE undergraduate SET hold=NULL where student_id='$student_id'";
36     } else {
37         $query = "UPDATE undergraduate SET hold='HOLD' where student_id='$student_id'";
38     }
39
40     if (!($result = $mysqli->query($query))) {
41         die("Query Failed: $mysqli->error");
42     }
43     header("Location: ./dashboard.php");
44 } else {
45     die("Please Post student_id");
46 }

```