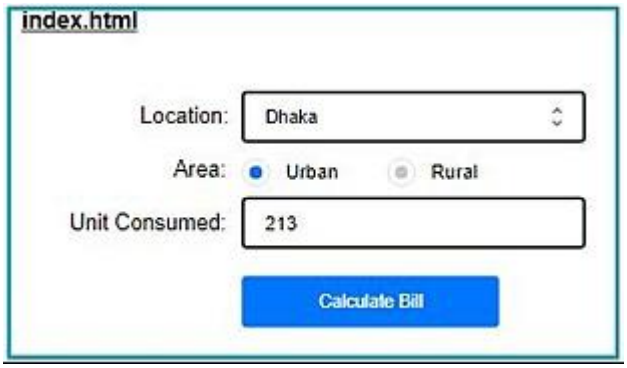
United International University
CSE 4165: Web Programming
Sections: All
Final Exam | Summer 2024
Mark: 40 | Time: 2 Hours (last 10 minutes for submission only)
Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules.

<table>
<tr>
<td>1)</td>
<td>Calculate the electricity bill using location-specific rates. For Dhaka, charge 7.5 taka per unit in urban areas and 6.5 taka in rural areas. Chattogram rates are 7.0 taka (urban) and 6.0 taka (rural). Other locations use 6.5 taka (urban) and 5.5 taka (rural). Apply a surcharge to the total bill: no surcharge for bills under 500 taka, 5% for bills between 500-1000 taka, and 10% for bills over 1000 taka. Display the final amount, including surcharge, in an alert box, rounded to two decimal places. Implement input validation to ensure a location is selected, an area type (Urban or Rural) is chosen (can’t select both), and the "Unit Consumed" field contains a positive number. If any validation fails, display an appropriate error message to the user.

 
</td>
<td>[10]</td>
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<td>2)</td>
<td>Karim went up a hill for 18 minutes at a speed of 20 miles per hour (km/h). Then he came back down the same hill at a speed of 60 km/h. What was his average speed for the whole trip? (Hint: It was 30 mph.). Write a PHP function that calculates the average speed for a trip when given the time spent going uphill (in minutes), the speed going uphill (in km/h), and the speed going downhill (in km/h). The function will return the average speed as a whole number (integer) in km/h.

<table>
<tr><th>Sample Input</th><th>Sample Output</th></tr>
<tr><td>calculate(18, 20, 60);
Here, 18 = time spent going uphill in minutes
20 = speed of going uphill in km/h
60 = speed of going downhill in km/h</td><td>30</td></tr>
<tr><td>calculate(30, 8, 24);</td><td>12</td></tr>
</table></td>
<td>[10]</td>
</tr>
<tr>
<td>3)</td>
<td>Write a program to check the strength of your password and display the result in your PHP file.
Strong: The password contains at least 10 characters, includes at least one uppercase letter, one lowercase letter, one digit, one special character, and ends with the symbol ‘*’.
Medium: The password contains at least 8 characters, includes at least one uppercase letter, one lowercase letter, and one digit.
Poor: The password at least 6 characters and includes at least one uppercase letter.
Very Poor: anything other than the criteria mentioned above.

Password: Check</td>
<td>[10]</td>
</tr>
</table>

Sample Input	Sample Output
aFDF@F1ds*	Strong
af15f15a4f45af4asas12	Very Poor

4) [10]

A retail company wants a detailed sales analysis for January 2024 to gain deeper insights into their business performance. You are tasked with generating various reports using the sales table. The table structure is as follows:

sale_id	product_id	quantity_sold	sale_date	total_price
1	107	5	2024-01-01	2500.00
2	103	3	2024-01-02	900.00
3	103	2	2024-01-02	60.00
4	107	4	2024-01-03	80.00
5	107	6	2024-01-03	90.00

Now, do the following using MYSQL with the help of PHP where needed:

1) Find the total quantity sold and the total revenue for each product.
2) Find the two days in January 2024 with the highest total revenue. Show the sale_date and the total revenue for each day.
3) Calculate the average quantity sold per product for each product_id in January 2024, but only for products that had sales on at least two different days.

Example Codes (MySQLi Object-oriented)

```
<?php
 $servername = "localhost";
 $username = "username";
 $password = "password";
 $dbname = "myDB";
 $conn = new mysqli($servername, $username, $password,
$dbname);
 if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
 }
 $sql = "INSERT INTO MyGuests (firstname, lastname, email)
 VALUES ('John', 'Doe', 'john@example.com')";
 if ($conn->query($sql) === TRUE) {
   echo "New record created successfully";
 } else {
   echo "Error: " . $sql . "<br>" . $conn->error;
 }
 $conn->close();
 ----------------------------------------------------------

$sql = "SELECT id, firstname, lastname FROM MyGuests";
 $result = $conn->query($sql);

 if ($result->num_rows > 0) {
   // output data of each row
   while($row = $result->fetch_assoc()) {
     echo "id: " . $row["id"]. " - Name: " . $row["firstname"]. " " .
$row["lastname"]. "<br>";
 }
 } else {

 echo "0 results";
 }

----------------------------------------------------------

$sql = "UPDATE MyGuests SET lastname='Doe' WHERE id=2";
 if ($conn->query($sql) === TRUE) {
   echo "Record updated successfully";
 } else {
   echo "Error updating record: " . $conn->error;
 }

----------------------------------------------------------

$sql = "DELETE FROM MyGuests WHERE id=3";
 if ($conn->query($sql) === TRUE) {
   echo "Record deleted successfully";
 } else {
   echo "Error deleting record: " . $conn->error;
 }
```