UNITED INTERNATIONAL UNIVERSITY

Final Exam | Spring 2024

CSE 4165/CSE 465 Web Programming

Mark: 30 | Time: 2 Hours (including submission)

NAME:	**ID:**

Return the question to the invigilator at the end of the exam. Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules.

1. **[10]**

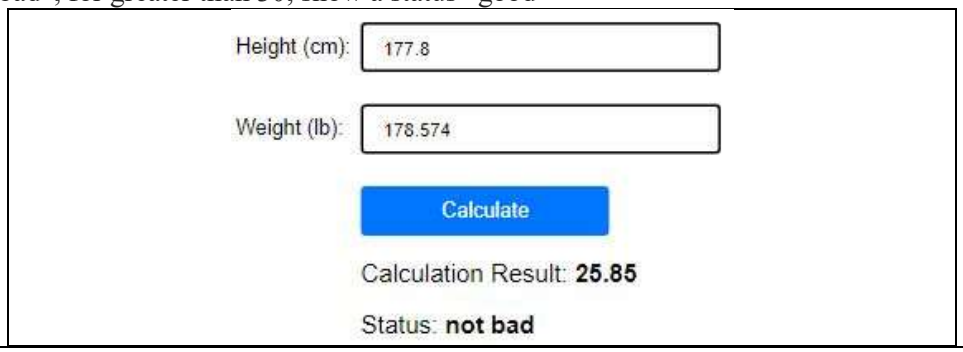
Javascript: Write a javascript program to calculate the formula given below. First, take height in centimetre(cm) and weight in pounds(lb), convert, calculate, and display results in the inner html.

Calculation Result = $\frac{\text{Weight in KG}}{(\text{Height in metre})^2}$

Formula to convert centrimetre to metre: $\text{metre}=\frac{\text{centrimetre}}{100}$

Formula to convert pound to KG: $\text{KG}=\frac{\text{pound}}{2.2046}$

If the calculation result is greater than 0 and less than 20, show a status "bad", greater than 20 to 30, show a status "not bad", for greater than 30, show a status "good"



2. **[10]**

PHP: Create a cryptic sequence generator using for loop. The sequence will start with a given seed value and follow these rules:

1. The first number is the seed itself.
2. For each subsequent number in the sequence, take the previous number and add the product of its digits.
3. Repeat this process for a specified number of terms.

Now, write a PHP program that takes a seed value and the number of terms as input and generates the cryptic sequence based on the rules above. Display the sequence in a comma-separated format.

Sample Input	Sample Output
Seed value: 7 Terms: 5	7, 14, 19, 29, 40
Seed value: 4 Terms: 9	4, 8, 16, 23, 28, 38, 49, 62, 70

3. **[10]**

PHP&MYSQL: Design and write the following web application using php and all other supporting languages. The web app will implement an electricity bill calculation system. The bills will vary depending on a consumer's location, area, and quantity consumed unit. First, create an *electricity_bill* database, and then create a *bill_info* table with the following fields:

#	Name	Type
1	id	int(11)
2	location	varchar(100)
3	area	varchar(100)
4	rate_0_75	float
5	rate_76_200	float
6	rate_201_above	float

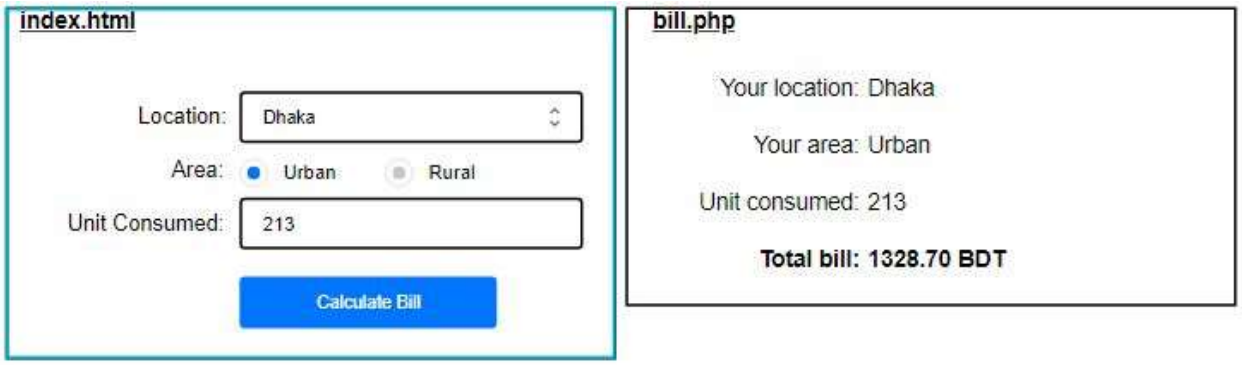
Fill the above table with the following billing/rate information:

Location	Area	Rates (Unit=BDT)
Dhaka	Urban	0-75 = 4.19 76-200 = 5.72 201-above = 6.00
	Rural	0-75 = 3.19 76-200 = 4.72 201-above = 5.00
Chittagong	Urban	0-75 = 3.50 76-200 = 4.80 201-above = 5.23
	Rural	0-75 = 2.50 76-200 = 3.80 201-above = 4.23

Tax will be applied to the bill to calculate the final Total bill. Impose tax as follows:

Location	Tax on bill
Dhaka	20%
Chittagong	15%

Now, create a *index.html* file and take all necessary input, such as location, area, and unit consumed, and then create a *bill.php* file to fetch necessary information from database based on inputs from index.html and calculate the total bill and show results as follows:



Example (MySQLi Object-oriented)

```php
<?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;
}
```