

**Lab # 10**

**Web Engineering  
Fall 2020**

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| Semester | 8th |

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| **Lesson Set 10** | **Introduction to PHP and**  **CRUD operations** | | | |
| **Purpose** | 1. To get a basic awareness of PHP 2. To understand PHP and why we are using it. 3. To learn the basics of PHP and create simple pages. | | | |
| **Procedure** | 1. Students should read the Pre-lab Reading assignment before coming to the lab. 2. Students should complete the Pre-lab Writing assignment before coming to the lab. 3. In the lab, students should complete Labs 10.1 through 10.4 in sequence. Your instructor will give further instructions as to grading and completion of the lab. 4. Students should complete the set of lab tasks before the next lab and get them checked by their lab instructor. | | | |
|  | **Contents** | **Pre-requisites** | **Completion Time** | **Page Number** |
|  | Pre-lab Reading Assignment | - | 20 min | 3 |
|  | Pre-lab Writing Assignment | Pre-lab Reading | 10 min | 4 |
|  | **Lab 10** | | | |
|  | **Lab 10.1**  PHP operations | Pre-lab reading | 30 min | 5 |
|  | **Lab 10.2**  Lab Tasks | Awareness of programming | - | 9 |

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| **PRE-LAB READING ASSIGNMENT** | |
| **C++ vs PHP** | **Variables:**  - C++: In C++, variables must be declared with a specific data type before they can be used. For example:    *int age = 25;*  *double pi = 3.14;*  *std::string name = "John";*    - PHP: PHP variables do not require explicit declaration of data types. Variable names start with the dollar sign `$`, and their data types are dynamically determined based on the assigned values. For example:    *$age = 25;*  *$pi = 3.14;*  *$name = "John";*    **Loops:**  - C++: C++ supports various types of loops such as `for`, `while`, and `do-while` loops. For example:    *for (int i = 0; i < 5; i++) {*  *// Code to be executed*  *}*    - PHP: PHP also supports similar types of loops. For example:    *for ($i = 0; $i < 5; $i++) {*  *// Code to be executed*  *}*    **Methods/Functions:**  - C++: In C++, functions are defined using the `function` keyword, followed by the return type, function name, parameters, and function body. For example:    *int add(int a, int b) {*  *return a + b;*  *}*    - PHP: In PHP, functions are defined using the `function` keyword, followed by the function name, parameters, and function body. For example:  `  *function add($a, $b) {*  *return $a + $b;*  *}*    **Input/Output:**  - C++: In C++, input/output operations are typically performed using the `cin` and `cout` objects for console input and output, respectively. For example:    *#include <iostream>*  *int main() {*  *int age;*  *std::cout << "Enter your age: ";*  *std::cin >> age;*  *std::cout << "Your age is: " << age;*  *return 0;*  *}*    - PHP: In PHP, input/output operations are usually performed using functions like `echo` for output and `$\_GET` or `$\_POST` superglobals for input from forms. For example:  `  *<?php*  *$age = $\_GET['age'];*  *echo "Your age is: " . $age;*  *?>*    These are some basic comparisons between C++ and PHP in terms of variable declaration, loops, methods/functions, and input/output operations. Both languages have their own syntax and conventions for these operations, but they share many similarities in terms of functionality. |
| **CRUD Operations** | CRUD is an acronym that stands for Create, Read, Update, and Delete. It represents the four basic operations performed on data in most database systems. In the context of PHP, CRUD operations refer to manipulating and managing data using PHP code.  **Create (C):**  Creating refers to adding new data to a system or database. In PHP, you can create new data by capturing user input, processing it, and adding it to the desired database table.    *<?php*  *// Create a new user in the database*  *$name = $\_POST['name'];*  *$email = $\_POST['email'];*    *$sql = "INSERT INTO users (name, email) VALUES ('$name', '$email')";*  *if ($conn->query($sql) === TRUE) {*  *echo "New record created successfully";*  *} else {*  *echo "Error: " . $sql . "<br>" . $conn->error;*  *}*  *?>*    **Read (R):**  Reading involves retrieving and accessing data from a system or database. In PHP, you can read data by querying the database and fetching the desired records.  *<?php*  *// Read data from the database*  *$sql = "SELECT \* FROM users";*  *$result = $conn->query($sql);*    *if ($result->num\_rows > 0) {*  *while($row = $result->fetch\_assoc()) {*  *echo "Name: " . $row["name"]. " - Email: " . $row["email"]. "<br>";*  *}*  *} else {*  *echo "0 results";*  *}*  *?>*    **Update (U):**  Updating means modifying or changing existing data in a system or database. In PHP, you can update data by executing SQL UPDATE queries.  *<?php*  *// Update user data in the database*  *$id = $\_POST['id'];*  *$newName = $\_POST['newName'];*    *$sql = "UPDATE users SET name='$newName' WHERE id=$id";*  *if ($conn->query($sql) === TRUE) {*  *echo "Record updated successfully";*  *} else {*  *echo "Error updating record: " . $conn->error;*  *}*  *?>*    **Delete (D):**  Deleting refers to removing data from a system or database. In PHP, you can delete data by executing SQL DELETE queries.  *<?php*  *// Delete user data from the database*  *$id = $\_POST['id'];*    *$sql = "DELETE FROM users WHERE id=$id";*  *if ($conn->query($sql) === TRUE) {*  *echo "Record deleted successfully";*  *} else {*  *echo "Error deleting record: " . $conn->error;*  *}*  *?>* |

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| **PRELAB WRITING ASSIGNMENT** | |
| **Fill in the blanks** | 1. \_\_CRUD\_\_\_\_\_\_\_ operations are the fundamental operations used to manipulate data in a system. 2. Create operation is used to add \_\_\_Record\_\_\_\_\_ or \_Enteries\_\_\_\_\_\_\_ to a database or data structure. 3. Read operation is used to \_\_Retrieve\_\_\_\_\_\_\_ or access \_Existing data\_\_\_\_\_\_\_\_\_\_ from a database or data structure. 4. Update operation is used to \_modify\_\_\_\_\_\_ or change \_\_existing\_\_\_\_\_\_\_ in a database or data structure. 5. Delete operation is used to \_\_remove\_\_\_\_\_\_\_\_ data from a database or data structure. |

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| **Lab 10.2** | **Lab Tasks** |

1. Create a login form with two text fields called “login” and “password”. When user enters “Galgotias” as a user name and “university” as a password it should be redirected to a Welcome.HTML page or to Sorry.HTML in case of wrong username/password.

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1. Write a PHP program using Java Script to convert the decimal number to its binary equivalent. You must use a form to accept the number from the user.

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1. Write a PHP code that define class Student with attributes RollNo, Name, Branch, and Year, create 3 instances of it, sets the values of each instance appropriately and print the values of all attributes.

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1. Create a form with a text box asking to enter your favorite city with a submit button when the user enters the city and clicks the submit button another php page should be opened displaying “Welcome to the city”.

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