

## PHP Lab Questions

### 1. Arrays – Sorting and Displaying Top Students

Write a PHP program that stores student names and their marks in an associative array (e.g., ["Rahul" => 85, "Priya" => 92, "Arun" => 78, ...]). Sort the array in descending order of marks and display the top 3 students with their names and marks in a neat tabular format.

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### 2. Arrays + File Handling – Reading Products from File

Create a text file products.txt with product names and prices (e.g., Laptop,55000, Mouse,500). Write a PHP program to:

- Read the file contents into an array.
  - Sort the products based on price (ascending).
  - Display the sorted product list in an HTML table with two columns: Product Name and Price.
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### 3. Regular Expressions – Validating Email Addresses

Write a PHP script that has an array of email addresses, some valid and some invalid (e.g., ["john@example.com", "wrong-email@", "me@site", "user123@gmail.com"]). Using regular expressions, check each email address and print only the valid ones.

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### 4. Regular Expressions + Error Handling – Password Validation

Create a PHP script that accepts a password string. The password must:

- Be at least 8 characters long.
- Contain at least one uppercase letter.
- Contain at least one digit.
- Contain at least one special character (e.g., @, #, \$, %).

If the password does not meet any of these conditions, throw a custom exception with a message like "Password must contain at least one uppercase letter". Handle the exception and display the error message.

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### 5. File Handling – Writing and Reading Logs

Write a PHP script that appends log entries to a file access.log. Each entry should follow this format:

Username – YYYY-MM-DD HH:MM:SS – Action

Example: admin – 2025-09-26 10:30:15 – Logged In

After writing, read and display only the last 5 log entries on the web page.

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#### 6. Date and Time – Calculations

Write a PHP program to:

- Display the current date and time in the format DD-MM-YYYY HH:MM:SS.
  - Ask the user to input their date of birth (e.g., 1990-05-15) and calculate the number of days left until their next birthday.
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#### 7. Arrays + Error Handling – Average of Numbers

Write a PHP program that accepts an array of numbers (e.g., [10, 20, 30, 40, 50]) and calculates their average. If the array is empty, throw an exception with the message "No numbers provided" and handle it properly by displaying an error message.

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#### 8. File Handling + Regular Expressions – Extracting Mobile Numbers

Create a text file data.txt containing some text mixed with phone numbers (e.g., “Call me at 9876543210 or at office 9123456789”). Write a PHP program that uses regular expressions to extract all valid 10-digit mobile numbers from the file and save them into a new file numbers.txt.

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#### 9. Date and Time + File Handling – Backup File Creation

Write a PHP script that creates a backup copy of any given file. The backup file name should include the current date and time.

Example: If the original file is data.txt and today's date-time is 2025-09-26 11:25:00, the backup file should be saved as data\_2025-09-26\_11-25.txt.

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#### 10. Combined Task – Student Records Validation

You are given a text file students.txt where each line contains student details in this format:

Name,Email,DateOfBirth(YYYY-MM-DD)

Example: Anita,anita123@gmail.com,2000-06-15

Write a PHP program that:

- Reads each student record from the file.
- Validates the email format using regular expressions.

- Calculates the student's age from their date of birth.
  - Displays the valid records in a table with columns: Name, Email, Age.
  - If a record has an invalid email or missing fields, handle the error gracefully and save the invalid entries into a new file errors.log.
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