PHP Lab Exercises with Outline Solutions

---

1. Cookie-Based Visit Counter

Problem:
Write a PHP program that uses cookies to count how many times a user has visited your webpage. Display a message showing the visit count.

Outline Solution:

```php
<?php
if(isset($_COOKIE['visits'])) {
    $count = $_COOKIE['visits'] + 1;
} else {
    $count = 1;
}
setcookie('visits', $count, time() + 3600);
echo "Welcome! You have visited this page $count times.";
?>
```

---

2. Session-Based Login Authentication

Problem:
Create a login system using sessions. Redirect to a welcome page upon successful login.

Outline Solution:

```php
<?php
session_start();
if($_POST['user']=="admin" && $_POST['pass']=="1234") {
    $_SESSION['user'] = "admin";
    header("Location: welcome.php");
} else {
    echo "Invalid credentials.";
}
?>
```

---

3. Remember Me Functionality with Cookies

Problem:
Add a "Remember Me" option that saves the username in a cookie.

Outline Solution:

```php
<?php
if(isset($_POST['remember'])) {
    setcookie('username', $_POST['username'], time()+3600*24);
}
echo "Welcome " . ($_COOKIE['username'] ?? 'Guest');
```

```php
?>
```

---

4. Simple CAPTCHA Verification

Problem:
Generate a CAPTCHA image using GD library and verify user input.

Outline Solution:

```php
<?php
session_start();
$captcha = rand(1000,9999);
$_SESSION['captcha'] = $captcha;
$image = imagecreate(70,30);
$bg = imagecolorallocate($image,255,255,255);
$text = imagecolorallocate($image,0,0,0);
imagestring($image, 5, 10, 5, $captcha, $text);
header("Content-type: image/png");
imagepng($image);
?>
```

---

5. Embedding and Displaying an Uploaded Image

Problem:
Allow users to upload an image and display it.

Outline Solution:

```php
<?php
if(isset($_FILES['file'])) {
    move_uploaded_file($_FILES['file']['tmp_name'], "uploads/" .
$_FILES['file']['name']);
    echo "<img src='uploads/".$_FILES['file']['name']."' width='200'>";
}
?>
```

---

6. Create and Draw Graphics Dynamically

Problem:
Draw simple shapes using the GD library.

Outline Solution:

```php
<?php
$img = imagecreate(200,200);
$bg = imagecolorallocate($img,255,255,255);
$red = imagecolorallocate($img,255,0,0);
imagerectangle($img,50,50,150,150,$red);
header("Content-type:image/png");
imagepng($img);
?>
```

7. Add Text on an Image

Problem:
Add a watermark or text overlay on an existing image.

Outline Solution:

```php
<?php
$img = imagecreatefromjpeg("sample.jpg");
$color = imagecolorallocate($img,0,0,255);
imagestring($img,5,10,10,"VIT Chennai",$color);
header("Content-type:image/jpeg");
imagejpeg($img);
?>
```

8. Image Resizing and Scaling

Problem:
Resize an uploaded image while maintaining aspect ratio.

Outline Solution:

```php
<?php
$src = imagecreatefromjpeg("image.jpg");
$new = imagescale($src, 200, 150);
header("Content-type:image/jpeg");
imagejpeg($new);
?>
```

9. Color Palette Manipulation

Problem:
Generate random colored shapes using GD functions.

Outline Solution:

```php
<?php
$img = imagecreate(250,250);
for($i=0;$i<10;$i++){
    $color = imagecolorallocate($img, rand(0,255), rand(0,255),
rand(0,255));
    imagefilledellipse($img, rand(20,200), rand(20,200), 50, 50, $color);
}
header("Content-type:image/png");
imagepng($img);
?>
```

10. Send an Email with an Attachment

Problem:
Send an email using PHP's mail() function.

Outline Solution:

```php
<?php
$to = "receiver@example.com";
$subject = "Test Email";
$message = "This is a test email from PHP.";
$headers = "From: admin@example.com";
if(mail($to, $subject, $message, $headers))
    echo "Mail sent successfully.";
else
    echo "Mail failed.";
?>
```

11. Generate Gradient Image

Problem: Create a simple color gradient image using loops.
Outline Solution:

```php
<?php
$img = imagecreate(200,200);
for($i=0;$i<200;$i++){
  $col = imagecolorallocate($img,$i,$i,255);
  imageline($img,$i,0,$i,200,$col);
}
header("Content-type:image/png");
imagepng($img);
?>
```

12. Dynamic Image Banner with Text

Problem: Display a dynamic banner with timestamp text.
Outline Solution:

```php
<?php
$img = imagecreate(400,60);
$bg = imagecolorallocate($img,240,240,240);
$black = imagecolorallocate($img,0,0,0);
$text = "Generated on " . date("H:i:s");
imagestring($img,5,10,20,$text,$black);
header("Content-type:image/png");
imagepng($img);
?>
```

13. Personalized Greeting Using Sessions

Problem: Greet users based on session data.
Outline Solution:

```php
<?php
```

```
session_start();
if(!isset($_SESSION['name'])) $_SESSION['name'] = "Student";
echo "Hello, ".$_SESSION['name']."! Welcome to the PHP lab.";
?>
```

14. Simple Contact Form with mail()

Problem: Send a message through email using PHP mail().
Outline Solution:

```
<?php
$to="example@domain.com";
$sub="Contact Form Message";
$msg="This is a test message.";
$headers="From: user@domain.com";
mail($to,$sub,$msg,$headers);
echo "Mail Sent!";
?>
```

15. Feedback Form with Session and Email

Problem: Collect feedback and email it using session-stored name.
Outline Solution:

```
<?php
session_start();
$name = $_SESSION['user'] ?? "Guest";
$msg = "Feedback from $name: ".$_POST['feedback'];
mail("admin@vit.ac.in","Student Feedback",$msg,"From: noreply@vit.ac.in");
echo "Thank you, $name. Feedback sent!";
?>
```