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Experiment No: 01

a) Install and configure PHP, web server, MYSQL
b) Write a program to print "welcome to PHP"
c) Write a program using expression and operators.

Resources required:

Hardware	**Software**
Computer System	Any database tools such as XAMPP

Practical Significance:

PHP is an acronym for "PHP: Hypertext Preprocessor". PHP is a widely-used, open source scripting language. PHP scripts are executed on the server.

Theoretical Background:

- A PHP script starts with the <?php and ends with the ?> tag.
- The PHP delimiter <?php and ?> in the following example simply tells the PHP engine to treat the enclosed code block as PHP code, rather than simple HTML.
- On servers with shorthand support enabled you can start a scripting block with <? and end with ?>.

Syntax:

```
<?php
  echo 'Hello world';
?>
```

Program Code: Write a program to print "welcome to PHP"

```
<html>
<body>
<?php echo "Welcome to PHP";
?>
</body>
</html>
```

Each code line in PHP must end with a semicolon. The semicolon is a separator and is used to distinguish one set of instructions from another.
There are two basic statements to output text with PHP: **echo** and **print**. In the example above we have used the echo statement to output the text "Welcome to PHP ".

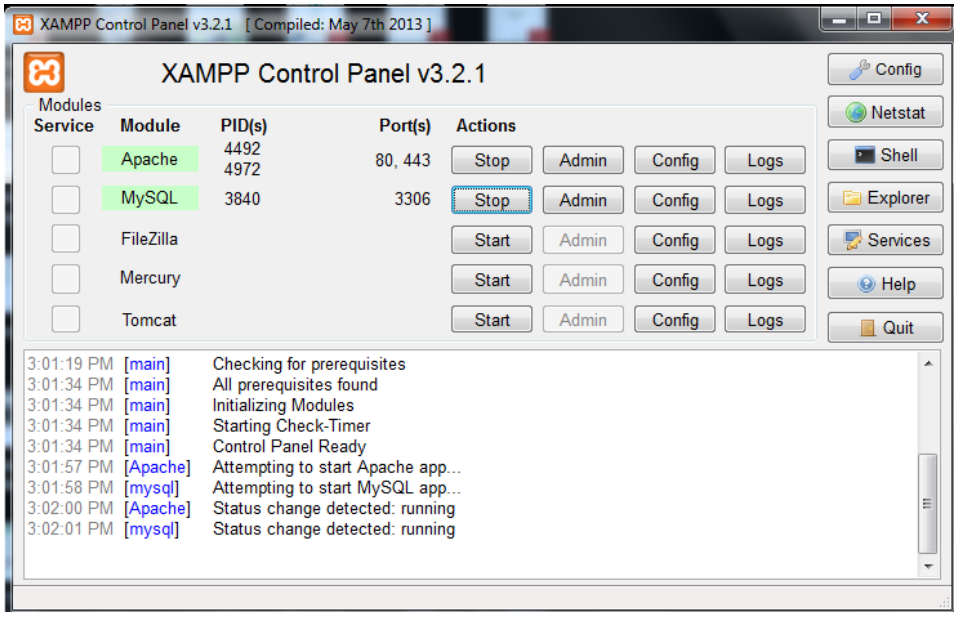
How to Run a PHP File in XAMPP

The XAMPP **(Cross**-platform, Apache, MariaDB (Mysql), PHP and Perl) suite of Web development tools, created by Apache Friends, makes it easy to run PHP (Personal Home Pages) scripts locally on your computer. Manual installation of a Web server and PHP requires in-depth configuration knowledge, but installing XAMPP on Windows only requires running an installer package. This package installs not only a Web server and PHP but also MySQL, FileZilla, Mercury, Perl and Tomcat.

Install XAMPP:

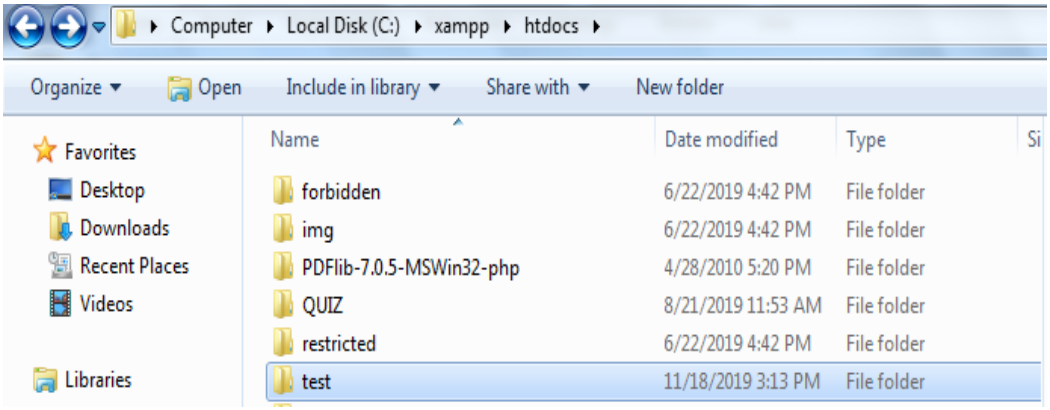
- Go to the Apache Friends website and download XAMPP for Windows. For the easiest install, download the Basic Package's "self-extracting RAR archive." Wait for the download to finish and open it to begin installing XAMPP. Click the "Install" button to start the file extraction. When the Command Prompt screen appears, press the "Enter" key at every question to accept default settings.

- Start the XAMPP program. When started, XAMPP loads itself into your icon tray. The icon is orange with a white bone-like shape in its center. Single-click the icon to expand the Control Panel. Click on the "Start" button next to "Apache" to start your Apache Web server. When Apache is running, the word "Running" will appear next to it, highlighted in green. Also start "MySQL" if your PHP scripts depend on a MySQL database to run.

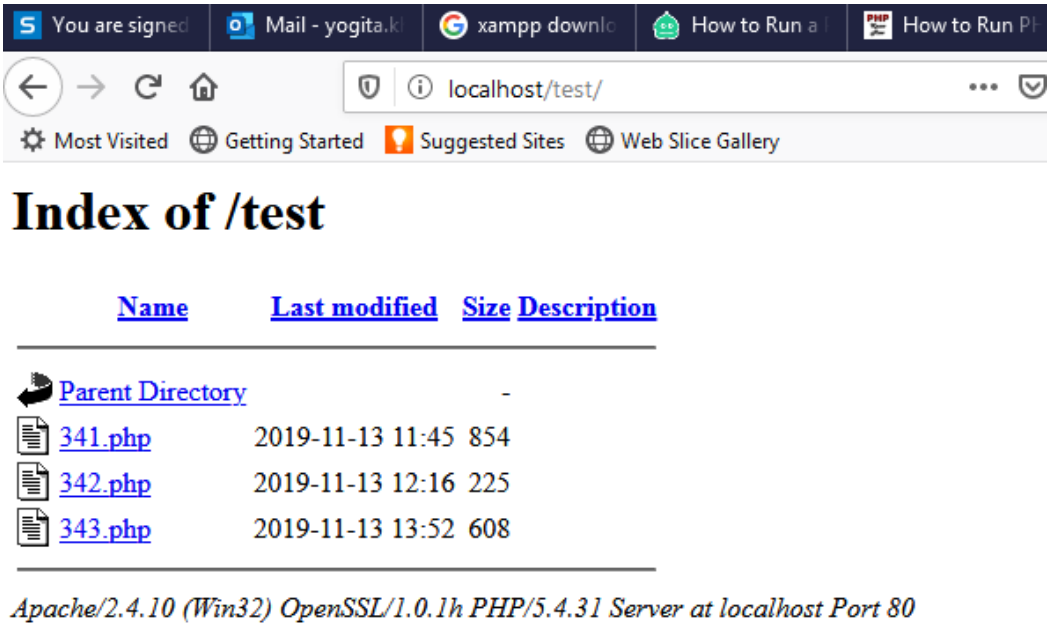


- Place your PHP files in the "htdocs" folder located under the "XAMMP" folder on your C: drive. The file path is "C:\xampp\htdocs" for your Web server.

- Make sure your PHP files are saved as such; they must have the ".php" file extension. The file path is " C:\xampp\htdocs\test"



- If you create a folder named "test," then use the address "localhost/test" to open them in your browser.



Operators are symbols used to manipulate data stored in variables. A value operated on by an operator is referred to as an *operand*. The combination of operands with an operator to produce a result is called an *expression*.
Example: (1+2)
Here integer value 1 and 2 are operands and + is the addition operator, operates on operands to produce the integer result 3.

PHP can:

- generate dynamic page content
- create, open, read, write, delete, and close files on the server
- collect form data
- send and receive cookies
- add, delete, modify data in your database
- used to control user-access
- can encrypt data

With PHP you are not limited to output HTML. You can output images, PDF files, and even flash movies. You can also output any text, such as XHTML and XML.

Why PHP?

- PHP runs on different platforms (Windows, Linux, Unix, Mac OS X, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP supports a wide range of databases.
- PHP is easy to learn and runs efficiently on the server side.

Practical related questions:

1. Sate difference between echo() and print().
2. State the difference between $ and $$ in PHP.
3. State the use of spaceship operator.
4. What are string operators available in PHP?
5. What is the use of var_dump() in php?
6. Analyze the difference between programming language and scripting language/

Exercise: Execute the following script and attach the output:

<?php
$x = -12;
echo ($x > 0) ? “The number is positive”: “The number is negative”;
?>
	<?php
	$y = 2;
	if (**$y == 4)
	{
	echo $y;
	}
	?>

<?php
$x = "test";
$y = "this";
$z = "also";
$x .= $y .= $z ;
echo $x;
echo $y;
?>
	<?php
	$a = 10;
	echo ++$a;
	echo $a++;
	echo $a;
	echo ++$a;
	?>

Write a program using expression and operators.

- **Arithmetic Operators**
- **Assignment Operators**
- **Comparison Operators**
- **Increment/Decrement Operators**
- **Logical or Relational Operators**
- **String Operators**
- **Array Operators**
- **Conditional or Ternary Operators**
- **Spaceship Operators**
- **Bitwise Operators**

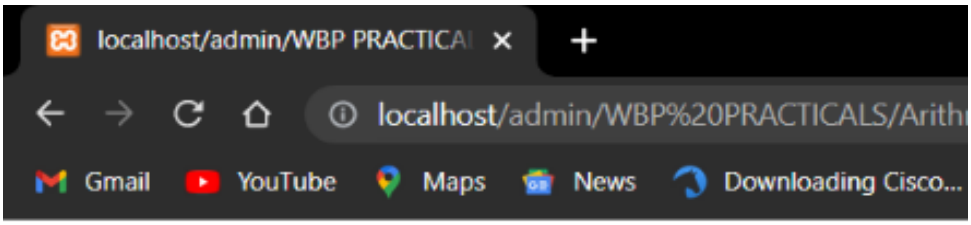
Arithmetic Operators

Program Code:

```php
<?php
$a = 20;
$b = 10;
echo "First number:$a <br/>";
echo "Second number:$b <br/>";
echo "<br/>";
$c = $a + $b;
echo "Addtion: $c <br/>";
$c = $a - $b;
echo "Substraction: $c <br/>";
$c = $a * $b;
echo "Multiplication: $c <br/>";
$c = $a / $b;
echo "Division: $c <br/>";
$c = $a % $b;
echo "Modulus: $c <br/>";

echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



First number:20
Second number:10

Addtion: 30
Substraction: 10
Multiplication: 200
Division: 2
Modulus: 0
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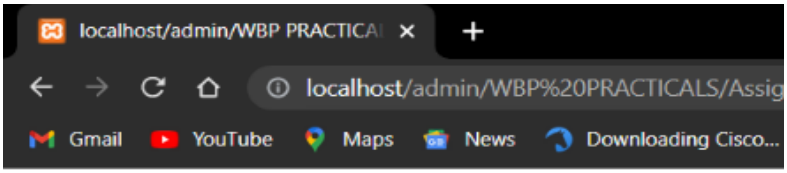
Assignment Operators

Program Code:

```php
<?php
$a=20;   // simple assign operator
echo "a=$a <br/>";
//add then assign operator
$a+=10;
echo "a=a+10 :$a <br/>";

// subtract then assign operator
$a-=10;
echo "a=a-10 :$a <br/>";

// multiply then assign operator
$a*=10;
echo "a=a*10 :$a <br/>";

// Divide then assign(quotient) operator
$a/=10;
echo "a=a/10 :$a <br/>";

// Divide then assign(remainder) operator
$a%=2;
echo "a=a%2 :$a <br/>";

echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



a=20
a=a+10 :30
a=a-10 :20
a=a*10 :200
a=a/10 :20
a=a%2 :0
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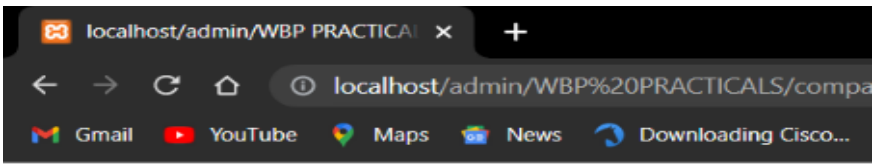
Comparison Operators

Program Code:

```php
<?php
$a=20;
$b=10;
$c=20;
var_dump($a == $c) . "<br/>";
echo "<br/>";
var_dump($a != $b) . "<br/>";
echo "<br/>";
var_dump($a <> $b) . "<br/>";
echo "<br/>";
var_dump($a === $c). "<br/>";
echo "<br/>";
var_dump($a !== $c). "<br/>";  //bool(false)
echo "<br/>";
var_dump($a < $b)  . "<br/>";    //bool(false)
echo "<br/>";
var_dump($a > $b)  . "<br/>";
echo "<br/>";
var_dump($a <= $b) . "<br/>";  //bool(false)
echo "<br/>";
var_dump($a >= $b);
echo "<br/>";
echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



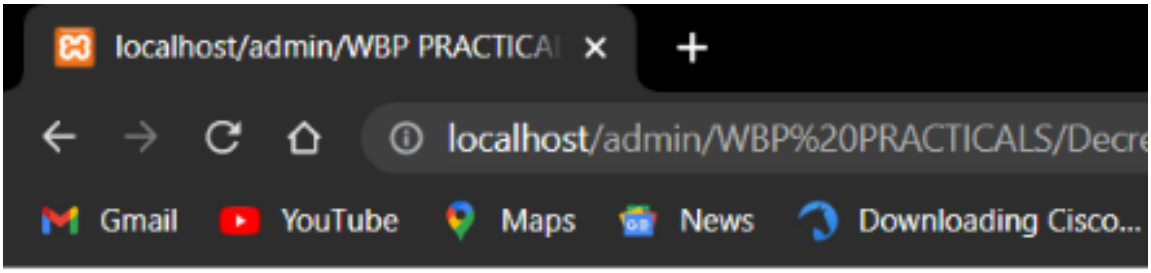
bool(true)
bool(true)
bool(true)
bool(true)
bool(false)
bool(false)
bool(true)
bool(false)
bool(true)
Srinivas Godihall
20203A1008

Increment/Decrement Operators

Program Code:

```php
<?php
$a = 3;
echo ++$a, " First increments then prints <br/>";
//4 First increments then prints
$a = 3;
echo $a++, " First prints then increments <br/>";
//3 First prints then increments
$a = 3;
echo --$a, " First decrements then prints <br/>";
//2 First decrements then prints
$a = 3;
echo $a--, " First prints then decrements <br/>";
//3 First prints then decrements

echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



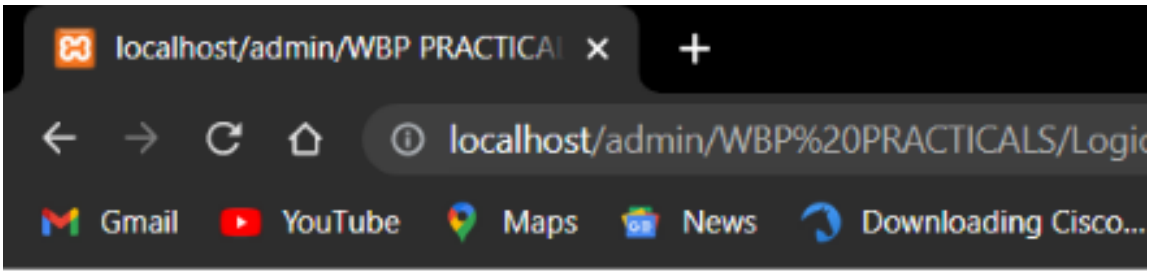
4 First increments then prints
3 First prints then increments
2 First decrements then prints
3 First prints then decrements
Srinivas Godihall
20203A1008

Logical or Relational Operators

Program Code:

```php
<?php
$a = 20;
$b = 10;
if ($a == 20 and $b == 10)
    echo "True <br/>";

if ($a == 20 or $b == 30)
    echo "True <br/>";
    if ($a == 20 xor $b == 5)
    echo "True <br/>";

if ($a == 20 && $b == 10)
    echo "True <br/>";

if ($a == 20 || $b == 20)
    echo "True <br/>";

    echo "Srinivas Godihall <br/>";
    echo "20203A1008 <br/>";
?>
```

Output:



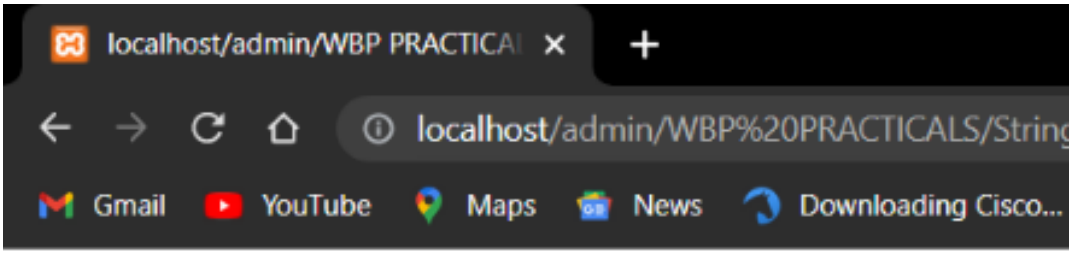
True
True
True
True
True
Srinivas Godihall
20203A1008

String Operators

Program Code:

```php
<?php
//first string
$a="Hello";
//second string
$b="World";
//concatenation of string
$c=$a.$b;
echo "$c <br/>";
//$a contains Hello
$a.="PHP";    //$a=
echo "$a";
echo "<br/>";
echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



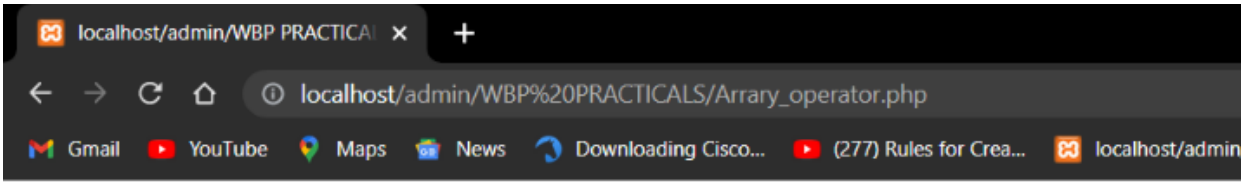
HelloWorld
HelloPHP
Srinivas Godihall
20203A1008

Array Operators

Program Code:

```php
<?php
$a = array("a"=>"c","b"=>"Perl");
echo "<br/>";
$b = array("d"=>"Java","e"=>"Python");
echo "<br/>";
var_dump($a + $b);
echo "<br/>";
var_dump($a == $b);
echo "<br/>";
var_dump($a != $b);
echo "<br/>";
var_dump($a <> $b);
echo "<br/>";
var_dump($a === $b);
echo "<br/>";
var_dump($a !== $b);
echo "<br/>";
echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



array(4) { ["a"]=> string(1) "c" ["b"]=> string(4) "Perl" ["d"]=> string(4) "Java" ["e"]=> string(6) "Python" }
bool(false)
bool(true)
bool(true)
bool(false)
bool(true)
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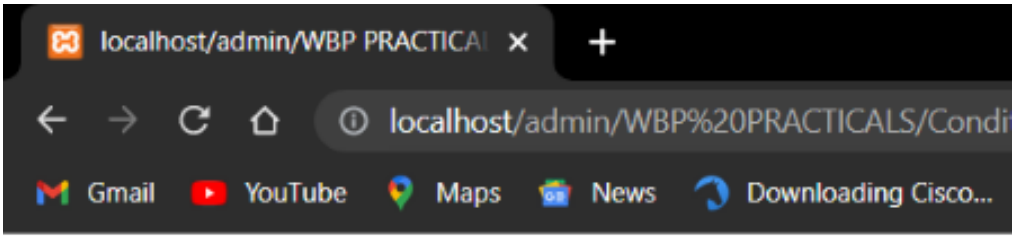
20203A1008

Conditional or Ternary Operators

Program Code:

```php
<?php
$a=-10;
echo ($a> 0) ? 'The number is positive' : 'The number is negative';
echo "<br/>";
echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



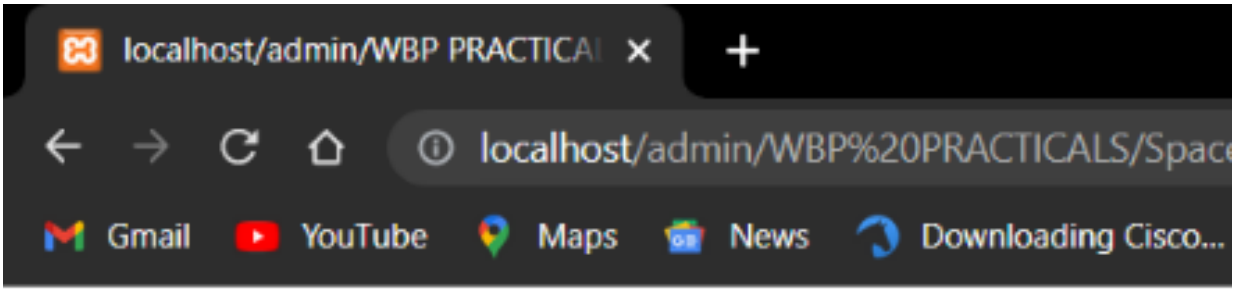
The number is negative
Srinivas Godihall
20203A1008

Spaceship Operators

Program Code:

```php
<?php
$a=30;
$b=30;
$c=20;
echo $a <=> $b;
echo "<br/>";
echo $a <=> $c;
echo "<br/>";
echo $c <=> $b;
echo "<br/>";

echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



0
1
-1
Srinivas Godihall
20203A1008

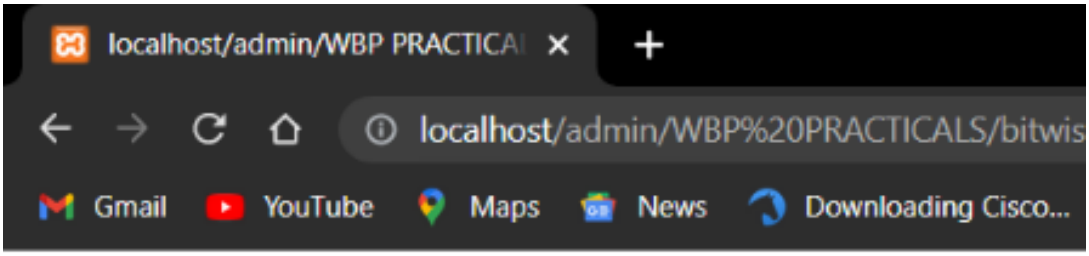
Bitwise Operators

Program Code:

```php
<?php
$a=5;
$b=3;
echo $a & $b;
echo "<br/>";
?>

<?php
$a=5;
$b=3;
echo $a | $b;
echo "<br/>";
?>

<?php
$a=5;
$b=3;
echo $a ^ $b;
echo "<br/>";
?>

<?php
$a=5;
echo ~$a;
echo "<br/>";
?>

<?php
$a=5;
$b=1;
echo $a<<$b;
echo "<br/>";
?>



<?php

$a=5;
$b=1;
echo $a>>$b;
```

```
echo "<br/>";
?>

<?php
echo "Srinivas Godihall <br/>";
echo "20203A1008 <br/>";
?>
```

Output:



1
7
6
-6
10
2
Srinivas Godihall
20203A1008