**Reg: 21RP01541**

Learning unit 2

1. **Explain php programing beyond definition?**
   - **PHP (short for Hypertext Preprocessor**) is the most widely used open source and general-purpose server-side scripting language used mainly in web development to create dynamic websites and applications.
   - **PHP** is an open-source server-side scripting language that many use for web development. It is also a general-purpose language that you can use to make lots of projects, including Graphical User Interfaces (GUIs).

## 2.Why do we need to use php programming?

Why to use PHP? PHP can actually do anything related to server-side scripting or more popularly known as the backend of a website. For example, PHP can receive data from forms, generate dynamic page content, can work with databases, create sessions, send and receive cookies, send emails etc.

## Advantages:

- ✓ Platform Independent
- ✓ Open source and dynamic Library support
- ✓ Organized
- ✓ Database Connectivity

**3.What is the latest php version we have today and list the updated features for the latest 3 release?**

- the latest php version used to day is **PHP 8.2**
- **list the updated features for the latest 3 release?**

| Version | PHP (*) | Release |
|---|---|---|
| 7.2 - 8.0 | March 3rd, 2020 | |
| 7.3 - 8.1 | September 8th, 2020 | |
| 8.0 - 8.2 | February 8th, 2022 | |
| 8.1 - 8.2 | February 7th, 2023 | |

## 4. What is different between new release vs stable release of a software product?

- **A release software** is the distribution of the final version or the newest version of a software application. A software release may be public or private and generally signifies the unveiling of a new or upgraded version of the application.
- **A stable release** is a version that has been tested as thoroughly as possible and is as reliable as we can make it. It does not have all the new features of a beta release and it does not have the latest fixes for problems.

## 5. What are the main features of php programming?

- Simplicity
- Flexibility
- Objective oriented
- Interpreted language
- Efficient
- Fast Performance
- Free and open-source
- Case-sensitive
- Platform independent
- Error reporting and handling

**6. With a help of examples explain why php is case sensitive?**

❖ **EX 1:** // 👇 you can create two variables like this:

```
$num = 99;
$NUM = 20;

echo $num; // 99
echo "\n".$NUM; // 20

// 👇 but you can't have two functions like this:
function greetings (){
   echo "Hello World!";
}

// 👇 Fatal error: Cannot redeclare GREETINGS ()
function GREETINGS (){
   echo "Hello World!";
}
```

As you can see in the example above, the variables $num and $NUM can have different values.

But when you declare two functions with the same name, PHP produces a fatal error: cannot redeclare the function.

But class properties are case sensitive, so you can create two different properties with the same name, but different cases:

**EX 2:**

```
   public $name = "Nathan";
   public $NAME = "Jack";
}

$h = new HUMAN();
echo $h->name;      // Nathan
echo "\n".$h->NAME; // Jackth the same name, but different cases:
```

**7. What and why do we use comments while writing php codes, with a help of example explain different types of php comments?**

**Why do we need comments in php codes**

- Comments Are a Lightweight Way to Let You Experiment
- Comments Let You Exhibit Without Getting in Your Way
- You Can Generate Code Documentation with Comments
- Comments Explain Why You Wrote Something

**With examples types of comments in php code**

1. **multiple-line comments**

<!DOCTYPE html>

<html>

<body>

<?php

// This is a single-line comment

# This is also a single-line comment

?>

</body>

</html>

2. **multiple-line comments**

```
<!DOCTYPE html>
<html>
<body>

<?php
/*
This is a multiple-lines comment block
that spans over multiple
lines
*/
?>

</body>
</html>
```

**8. Differentiate with real example the following php output functions:**

**a. Echo() vs print()**

- The differences are small: echo has no return value while print has a return value of 1 so it can be used in expressions.
- echo can take multiple parameters (although such usage is rare) while print can take one argument. echo is marginally faster than print.

**EX. For echo**

```
<?php
echo "<h2>PHP is Fun!</h2>";
echo "Hello world!<br>";
echo "I'm about to learn PHP!<br>";
echo "This ", "string ", "was ", "made ", "with multiple
parameters.";
?>
```

**Ex.for print**

```
<?php
/*print string*/
print "Hello world\n";

/*print variable values*/
$text = "Sample text";
$lucky_number = 100;

print "</br>";

print "Value of text is: " . $text . " Lucky number is: " .
$lucky_number . "\n";
?>
```

**B. Print () vs printf()**

- **The printf()** function outputs a formatted string. The arg1, arg2, ++ parameters will be inserted at percent (%) signs in the main string.
- **print** is also a statement, used as an alternative to echo at many times to display the output.
- **Ex:** print("Some Text $var some other text");

c. **Printf() vs print_r()** The printf( ) function builds a formatted string by inserting values into a template. The print_r( ) function is useful for debugging—it prints the contents of arrays, objects, and other things, in a more-or-less human-readable form.
**EX:** `print_r(mixed $value, bool $return = false): string|bool.`
**Print_r vs var_dump()** The var_dump() function displays structured information about variables/expressions including its type and value. Whereas The print_r() displays information about a variable in a way that's readable by humans.

**9. List and Describe different datatype we have in php by categorizing them in scalar, compound and special datatypes**

- **Scalar data Types:** a variable is called scalar type if it holds singular value only

**There are 4 scalar data types in PHP.**

1. Boolean
2. integer
3. float
4. string

- **Compound Types**: includes the values that contain more than one value.
  **There are 2 compound data types in PHP.**

- **array**
- **object**

**special types**: It is the storing of a reference to functions and resources external to PHP.

**There are 2 special data types in PHP.**

1. resource
2. NULL

### 10. What is php variable, list the variable naming rules you have to obey while defining a variable in php?

- **php variable :** are characters that stores value or information such as text or integers in your code.
- **list the variable naming rules you have to obey while defining a variable in php?**

  - A variable starts with the $ sign, followed by the name of the variable.
  - A variable name must start with a letter or the underscore character.
  - A variable name cannot start with a number.
  - A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _ )

## 11. List and explain at least 10 super global variables?

- **$GLOBALS** is a PHP super global variable which is used to access global variables from anywhere in the PHP script (also from within functions or methods).
- **$_SERVER** is a PHP super global variable which holds information about headers, paths, and script locations.
- **PHP $_REQUEST** is a PHP super global variable which is used to collect data after submitting an HTML form.
- **PHP $_POST** is a PHP super global variable which is used to collect form data after submitting an HTML form with method="post". $_POST is also widely used to pass variables.
- **PHP $_GET** is a PHP super global variable which is used to collect form data after submitting an HTML form with method="get".
- **$_FILES** is an associative array containing items uploaded via HTTP POST method.

- **$_ENV** is another super global associative array in PHP. It stores environment variables available to current script.
- **A cookie** is a variable which is stored in a user's web browser.
- **Session** variables are stored in associative array called $_SESSION.

## References


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