1. **What Is Object Oriented Programming?**

=> Object-Oriented Programming (OOP) is a programming paradigm in computer science that relies on the concept of classes and objects.

It is used to structure a software program into simple, reusable pieces of code blueprints (usually called classes), which are used to create individual instances of objects.

1. **What Are Properties Of Object Oriented Systems?**

=> Followings are properties of Object Oriented Systems.

- Object:

Objects represent entities of the real world and are invoked at the runtime. They consist of data (properties) and operations (functions) to work on these data.

- Instance:

Class instances are known as objects. The communication between methods can be done by class instance.

- Classes:

It is a collection of data and the related functions or operations. The operations or methods performed by the object are also defined within the class.

- Inheritance:

With the help of inheritance the objects belonging to one class are able to get the properties of the objects belonging to another class. With the help of inheritance, code can be reused.

- Data Abstraction:

The process of abstraction hides all the low-level details and represents only those features that are essential. It is one of the important characteristics of an object using which the particular object can be differentiated from others.

- Encapsulation:

Encapsulation is defined as the process of storing data and associated functions within a single class. With the help of encapsulation it is possible to hide the operational details of a class from the objects.

1. **What Is Difference Between Class And Interface?**

=> The ‘class’ keyword is used to create a class. The ‘interface’ keyword is used to create an interface.

A class can inherit another class. An Interface cannot inherit a class.

A class can contain constructors. An Interface cannot contain constructors.

An object of a class can be created. An object of an interface cannot be created.

1. **What Is Overloading?**

=> Overloading is the ability to create multiple functions of the same name with different implementations. In PHP overloading means the behavior of method changes dynamically according to the input parameter.

1. **What Is T\_PAAMAYIM\_NEKUDOTAYIM (Scope Resolution Operator (::) with Example**

=> The scope resolution operator is a token that allows access to static, constant, and overridden properties or methods of a class.

The most common example of the application of the scope resolution operator in PHP is to access the properties and methods of the class.

**Example 1**: This type of definition is used while defining constants within a class.

<?php

class test {

const PI = 3.14;

}

echo test::PI;

?>

**Example 2**: The keywords self, parent, and static are used to access properties or methods from inside the class definition.

<?php

class test1{

public static $bar=10;

public static function func(){

echo static::$bar."\n";

}

}

class test2 extends test1{

public static $bar=20;

}

// Calling for test1 of func()

test1::func();

// Calling for test2 of func()

test2::func();

?>

1. **What are the differences between abstract classes and interfaces?**

=> Abstract class can have abstract and non-abstract methods. Interface can have only abstract methods.

Abstract class doesn't support multiple inheritance. Interface supports multiple inheritance.

Abstract class can provide the implementation of interface. Interface can't provide the implementation of abstract class.

The abstract keyword is used to declare abstract class. The interface keyword is used to declare interface.

An abstract class can be extended using keyword "extends". An interface can be implemented using keyword "implements".

1. **Define Constructor and Destructor?**

=> **Constructor**:

A constructor is a method that is automatically called when you create a new instance of a class. The constructor's name is always \_\_construct, and it can accept parameters that are passed to the object.

**Destructor**:

A destructor is a method that is automatically called when an object is no longer needed or referenced. The destructor's name is always \_\_destruct, and it cannot accept any parameters.

The destructor's main purpose is to perform any cleanup or finalization tasks for the object, releasing resources, or flushing buffers.

1. **How to Load Classes in PHP?**

=> The class can be load using creating object of the class.

PHP parser loads it automatically, if it is registered with spl\_autoload\_register() function.

1. **How to Call Parent Constructor?**

=> We can't run directly the parent class constructor in child class if the child class defines a constructor. In order to run a parent constructor, a call to parent::\_\_construct() within the child constructor is required.

1. **Are Parent Constructor Called Implicitly When Create An ObjectOf Class?**

=> If the child class does NOT define a constructor then the parent constructor will be called.

1. **What Happen, If Constructor Is Defined As Private Or Protected?**

=> If constructor is defined private or protected and we try to creating an instance with the new keyword, then PHP will trigger a fatal error.

1. **What are PHP Magic Methods/Functions? List them Write program for Static Keyword in PHP?**

=> Magic methods in PHP are special methods that are aimed to perform certain tasks. These methods are named with double underscore (\_\_) as prefix.

These methods act as interceptors that are automatically called when certain conditions are met.

List of Magic Methods:

\_\_sleep, \_\_wakeup, \_\_serialize, \_\_unserialize, \_\_toString, \_\_invoke, \_\_set\_state, \_\_debugInfo, \_\_set, \_\_get, \_\_isset, \_\_unset

Program for Static keyword in PHP

<?php

class Test1

{

public static $my\_static = 'MyStatic';

public function staticValue() {

return self::$my\_static;

}

}

class Test2 extends Test1

{

public function testStatic() {

return parent::$my\_static;

}

}

echo Test1::$my\_static . "<br/>";

$obj = new Test1;

echo $obj->staticValue() . "<br/>";

echo Test2::$my\_static . "<br/>";

?>

**Output**:

MyStatic

MyStatic

MyStatic

1. **Create multiple Traits and use it in to a single class?**

<?php

trait Reader{

public function add($var1, $var2) {

return $var1 + $var2;

}

}

trait writer {

public function multiplication($var1, $var2) {

return $var1 \* $var2;

}

}

class File {

use Reader;

use writer;

public function calculate($var1,$var2){

echo “Addition: “ . $this->add($var1,$var2) .”<br/>”;

echo “Multiplication: “ .$this->multiplication($var1,$var2) . “<br>”;

}

}

$obj = new File();

$obj->calculate(5,3);

?>

1. **Write PHP Script of Object Iteration?**

=> PHP provides a way for objects to be defined so it is possible to iterate through a list of items, with, for example a foreach statement.

<?php

class Test1

{

public $var1 = 'value 1';

public $var2 = 'value 2';

public $var3 = 'value 3';

protected $protected = 'protected var';

private $private = 'private var';

function iterateVisible() {

echo "Test1::iterateVisible:\n";

foreach ($this as $key => $value) {

echo "$key => $value\n";

}

}

}

$obj = new Test1();

foreach($obj as $key => $value) {

echo "$key => $value\n";

}

echo "\n";

$obj->iterateVisible();

?>

1. **Use of The $this keyword**

=> $this is a reserved keyword in PHP that refers to the calling object. This keyword is only applicable to internal methods. In PHP $this is treated as a pseudo-variable.

* **Jquery**

**a) What is jQuery?**

=> jQuery is a small, light-weight and fast JavaScript library. It is cross-platform and supports different types of browsers. It is also very useful to simplify a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

**b) How are JavaScript and jQuery different?**  
 => JavaScript uses JIT[Just in Time Compiler] which is a combination of interpreter and Compile and is written in C. While JQuery Uses the resources that are provided by JavaScript to make things easier. It is a lightweight JavaScript library.

JavaScript uses long lines of code as an individual has to write the code own-self. With JQuery, one has to write fewer lines of code than JavaScript. We just need to import the library and use the only specific functions or methods of the library in our code.

JavaScript can be a burden over a developer as it may take a number of lines of lengthy code to attain functionality. Unlike JavaScript, JQuery is more user-friendly only a few lines of code have to write in order to have its functionality.

We can make animations in JavaScript with many lines of code. Animations are mainly done by manipulating the style of an Html page. In JQuery, we can add animation effects easily with fewer lines of code.

JavaScript is a language, obviously, it would be heavier than JQuery. While JQuery is a library, derived from JavaScript hence, it is lightweight.

**c) Which is the starting point of code execution in jQuery?**

=> $(document).ready() function is the starting point of jQuery code. It is executed when DOM is loaded. This $(document).ready() function load the script only after the whole DOM is loaded by the browser.

**d) Document Load Vs Window. Load() jQuery**

=> The key difference between $(document). ready() and $(window). load() event is that the code included inside onload function will run once the entire page(images, iframes, stylesheets,etc) are loaded whereas the $(document). ready() event fires before all images,iframes etc.

**e) What is the difference between prop and attr?**

=> prop() returns the current value. attr() returns the default value.

- prop() is mainly used when the user wants to change the value for an HTML tag’s attribute. attr() is mainly used to set the default value for an HTML tag’s attribute.

- prop() syntex is $(selector).prop(property) and attr() syntex is $(selector).attr(attribute)

**f) Explain Difference Between JQuery And JavaScript?**

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**g) How We Can Select The Specified <li> Element From The ListOf <li> Elements In <ul>?**

=> We can select the specified <li> element from the list of <li> elements using there class. For Example

<ul>

<li class="client with-menu" data-id="126"></li>

<li class="client with-menu active" data-id="132"></li>

</ul>

<script type=”text/javascript”>

var id = $('li.active').data('id');

</script>

Here li element’s active class used to fetch specific li element id

**h) In <table> Design Change The Color Of Even <tr> Elements To “green”And Change The Color Of Odd <tr> Elements To “blue” Color? Give An Example Code?**

=> <table border=2 id="test-table">

<tr>

<th>Company</th>

<th>Contact</th>

<th>Country</th>

</tr>

<tr>

<td>Alfreds Futterkiste</td>

<td>Maria Anders</td>

<td>Germany</td>

</tr>

<tr>

<td>Centro comercial Moctezuma</td>

<td>Francisco Chang</td>

<td>Mexico</td>

</tr>

<tr>

<td>Ernst Handel</td>

<td>Roland Mendel</td>

<td>Austria</td>

</tr>

<tr>

<td>Island Trading</td>

<td>Helen Bennett</td>

<td>UK</td>

</tr>

<tr>

<td>Laughing Bacchus Winecellars</td>

<td>Yoshi Tannamuri</td>

<td>Canada</td>

</tr>

<tr>

<td>Magazzini Alimentari Riuniti</td>

<td>Giovanni Rovelli</td>

<td>Italy</td>

</tr>

</table>

<script type=”text/javascript”>

$(document).ready(function() {

$("#test-table").find("tr:even").css({"background":"green"}).end().find("tr:odd").css({"background":"blue"});

});

</script>