ASSIGNMENT

1. Write a PHP Script to demonstrate the difference between Functional Programming, Procedural Programming and Object-Oriented Programming.

ANSWER

**FUNCTIONAL PROGRAMMING**

//Define a function that takes a value and returns its square

function square($x) {

Return $x \* $x;

}

//Use the function to calculate the square of a value

$result = square (5);

echo $result; // Output:25

In FP, we define a pure function square that takes an input and return a output without modifying external state.

**PROCEDURAL PROGRAMMING**

//Define a procedure that calculates the square of a value

Function calculateSquare($x) {

$result = $x \* $x;

echo $result;

}

//Call the procedure to calculate the square of a value

CalculateSquare(5); //Output:25

In PP, we define a procedure calculateSquare that performs a task(calculating the square) and may have side effects (echoing the results).  
**OBJECT-ORIENTED PROGRAMMING (OOP)**

//Define a class that represents a geometric shape

Class shape{

Private $width;

Private $height;

Public function

\_construct($width, $height) {

$this->width = $width;

$this->height = $height;

}

Public function getArea() {

Return $this->width \* $this->height;

}

}

//Use the object to calculate its area

$result = $rectangle->getArea();

Echo $result; // Output: 15

In OOP, we define a class Shape that represents a geometric shape with properties (width and height) and methods (getArea). We create an object $rectangle from the class and use its method to calculate its area.

1. In your understanding, diagrammatically differentiate between class, object and properties;

ANSWER

CLASS OBJECTS PROPERTIES

PROPERTY NAME

OBJECT NAME

CLASS NAME

ss

VALUE

OBJECT PROPERTIES AND VALUES

CLASS METHODS

CLASS PROPERTIES