**OOP PHP**

**Chapter - 1 Lab-Assignment**

1. Create class named Student with Property: name (string), rollno (int), grade (string), mark1 (int), mark2 (int), mark3 (int), total (int), Percentage (float).

* Prepare a Constructor for set name, rollno, mark1, mark2, mark3 Property.
* Method: 1) getDetails(): print a string with all student information and calculate the total of marks and count the percentage & according to percentage set the grade.

   2) checkResult(): Prints "Pass" if percentage ≥ 40, otherwise "Fail".

1. Create class named Bank with Property: accountNumber (string), accountHolder (string), balance (float, default 0).

* Prepare Constructor for assign value to all property.
* Method: 1) deposit($amount): Increases balance by $amount if amount > 0,

    2) withdraw($amount): Decreases balance by $amount if sufficient funds exist.

    3) getBalance(): Returns the current balance.

    4) getAccountInfo(): Returns a string with account number, holder, and balance.

1. Create class named Product with Property: name (string), price (float), quantity (int), category (string).

* Prepare Constructor for assign value to all property.
* Method: 1) getProductInfo(): Returns a string with all product details.

    2) updateQuantity($amount): Adds or subtracts from quantity (positive    or negative amount)

    3) isInStock(): Returns true if quantity > 0, otherwise false

    4)  applyDiscount($percent): Reduces price by the given percentage

    5) restock($amount): Adds specified amount to quantity

1. Create class named Calculator with Static Property: pi (float), initialized to 3.14

* Static Method: circleArea($radius) — returns area using pi \* radius²
* Static Method: circleCircumference($radius) — returns circumference using 2 \* pi \* radius

1. Create class named TemperatureConverter with Static Methods: celsiusToFahrenheit($celsius) — converts Celsius to Fahrenheit and returns the result and fahrenheitToCelsius($fahrenheit) — converts Fahrenheit to Celsius and returns the result.

* Call both static methods without creating an object
* Print conversion results for sample values (e.g., 0°C, 100°F)

1. Create a class named Book with Properties: title (string), author (string), year (int).

* Method setTitle($title) — sets the book title, returns $this
* setAuthor($author) — sets the author name, returns $this
* setYear($year) — sets the publication year, returns $this
* getDetails() — returns a formatted string with all book details
* Use method chaining to set all properties in one statement.