Programming Assignment 2

1. Printing Strings:
    - Write a program that prints a string variable containing your favorite quote.
2. Accessing Characters in Strings:
    - Create a program that prompts the user for their name and then prints the first and last characters of the name.
3. Cleaning Strings:
    - Design a program that takes a user-input string and removes any leading or trailing whitespaces.
4. Encoding and Escaping:
    - Write a program that encodes a given string using Base64 encoding.
5. Comparing Strings:
    - Develop a program that compares two strings and prints whether they are equal or not.
6. Manipulating and Searching Strings:
    - Implement a program that takes a sentence as input and replaces all occurrences of a specified word with another word.
7. Regular Expressions:
    - Create a program that uses regular expressions to validate if a given string is a valid email address.
8. Indexed vs. Associative Arrays:
    - Explain the difference between indexed and associative arrays in a programming language of your choice.
9. Defining Arrays:
    - Write a program that defines an array of integers and prints each element on a new line.
10. Storing Data in Array:
    - Develop a program that asks the user to input five names and stores them in an array.
11. Multidimensional Array:
    - Create a program that uses a 2D array to represent a multiplication table up to 10x10.
12. Extracting Multiple Values:
    - Write a program that extracts even numbers from an array of integers and stores them in a new array.
13. Conversion between Array and Variables:
    - Design a program that converts a string of comma-separated numbers into an array of integers.
14. Traversing Arrays:
    - Implement a program that calculates the sum of all elements in an array.

15. Class Definition and Object Creation:
    - Write a PHP class named Person with properties for name and age. Create an object of this class and set values for these properties. Also, demonstrate how to access and print these property values.
16. Access Modifiers and Methods:
    - Create a PHP class called BankAccount with a private property balance. Implement methods for depositing and withdrawing money. Use access modifiers to restrict direct access to the balance property. Provide an example of creating an object and performing both a deposit and a withdrawal.
17. Constructor and Parameterized Constructor:
    - Define a PHP class Book with properties title and author. Implement a constructor to initialize these properties when an object is created. Additionally, create a parameterized constructor to allow setting these properties during object creation.
18. Anonymous Class and Dynamic Object Creation:
    - Write a PHP code snippet that demonstrates the use of an anonymous class. Create an object dynamically using this anonymous class and assign values to its properties.
19. Inheritance and Method Overriding:
    - Create a base class Vehicle with a property model and a method startEngine(). Extend this class to create a derived class Car. Override the startEngine() method in the Car class to provide a specific implementation. Create objects for both the Vehicle and Car classes, and demonstrate method overriding.