1. **Prime Number Check**  
   Develop an algorithm, flowchart and pseudocode to check whether the given number is prime or not.
2. **Multiplication Table Using Nested Loops**:

Write a program that prints a multiplication table up to 10 using nested loops.

1. **Recursive Fibonnacci Series**

Write a program to generate fibonnacci series upto n terms using recursion.

1. **Object Oriented Principles**

Create a base class Person with attributes name and age. Derive two classes Student and Teacher. Use composition to include an Address class in both derived classes.

1. **Case-Insensitive Search**  
   Implement a case-insensitive search algorithm to find a keyword in a large body of text for a document search feature.
2. Design a flowchart to calculate the factorial of a given number. Example: Calculate 5! = 5 \* 4 \* 3 \* 2 \* 1 = 120.
3. **HCF (Highest Common Factor) Calculation**: Write a Python program to compute the HCF of two integers
4. **Modules and Packages**  
   Create a program that utilizes Python’s built-in modules (math, random, etc.) to perform various calculations and tasks. Develop a custom module with string manipulation functions, and import it into your main program.
5. **Custom Data Structures**  
   Implement a personal library system using object-oriented principles. Define classes for books, authors, and genres. Create methods to:
   * Add new books.
   * Search for books by author or genre.
   * Display a list of books in the library.
6. **Search Algorithms**  
   Implement a binary search algorithm to find a specific product in a sorted list of prices for a shopping app.
7. Write a program to find the factorial of a given number using recursion
8. Write a program to demonstrate scope and lifetime of variables.
9. Write a program to demonstrate any 5 functions of list, set, tuple and dictionary
10. Write a program to demonstrate class, object and constructor comcepts.
11. Write a program to find GCD of 2 numbers.
12. Write a program to check
    1. A number is palindrome
    2. A string is palindrome