1) Write an algorithm, draw a flowchart to swap the values of two variables with and without using a third variable. Example: Given A = 5 and B = 10, after the swap, A = 10 and B = 5.

2) Create an algorithm, draw a flowchart that calculates the sum of a given set of numbers. Example: Given the numbers 12, 15, 7, 10, the program should compute their total sum: 44.

3) Develop an algorithm, draw a flowchart to reverse the digits of an integer. Example: If the input is 12345, the output should be 54321.

4) Write an algorithm, draw a flowchart that generates the first ‘n’ terms of the Fibonacci sequence. Example: Generate the first 10 terms: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34.

5) Develop an algorithm, draw a flowchart that recommends travel destinations based on the user’s budget and preference (Adventure or Relaxation). If the budget is over ₹1,50,000, recommend the Himalayas (for Adventure) or Paris (for Relaxation). Otherwise, recommend Goa (for Relaxation) or Waynad (for Adventure).

6) Develop a program that uses arithmetic operators to perform basic operations (addition, subtraction, multiplication, division) and relational operators to compare two user-inputted numbers and display the results.

7) Write an algorithm, and a Python program to check if a given year is a leap year. A year is a leap year if:

* + - It is divisible by 4,
    - If divisible by 100, it must also be divisible by 400.

8) Write an algorithm, and a program that prints numbers from 1 to 10 using a while loop.

9) Write an algorithm, and a program that categorizes a number as positive, negative, or zero.

10) Write an algorithm, and a program that prints a multiplication table up to 10 using nested loops.