1. Design an algorithm and draw a flowchart to swap the values of two variables entered by user.
2. Draw a flowchart and design an algorithm to compute factorial of any number entered by user.
3. Develop an algorithm and flowchart to reverse the digits of an integer entered by user.
4. Develop an algorithm and flowchart to compute the greatest common divisor of two given integers.
5. Develop a python program to check whether given year is leap year or not.
6. Design a python program that prints numbers from “start” to “end” using while loop, where “start” and “end” values are entered by user.
7. Write a python program that prints multiplication table of any number entered by user. Allow the user to specify the table size also.
8. Write a python program to check whether given number is prime or not.
9. Design a python program that takes a sentence as input and prints the first half and second half separately.
10. Develop a python program that processes a paragraph of text, counting the number of words, finding the longest word, and converting the text to title case.
11. Design a python program to implement bubble sort that sorts a list of item quantities entered by the user.
12. Design a python program to implement selection sort that sorts a list of item quantities entered by the user.
13. Perform the set operations union, intersection and difference with the help of a python program.
14. Create a python program to generate list of squares of even numbers between 1 and 20.
15. Create a program that models a library system using nested dictionaries. Include functionality to list books by genre.
16. Develop a program to demonstrate how to (i) add and remove elements from a list (ii) accessing elements in tuple.
17. Design a python program to find factorial of a given number using recursion.
18. Explain the concept of binary search on a list of values with an example program.
19. Design a python program to find sum of natural numbers upto n using recursion.
20. Explain the concept of linear search on a list of values with an example program.