Assignment 8

Task 1. Write a program to accept the rows number from a user and print the reverse number pattern using a loop.

Input:
Enter rows number: 5
Output:
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1

Task 2. Write a program to accept a number from a user and calculate the average of all numbers from 1 to a given number.

Input:
Enter number: 5
Output:
Sum of first 5 numbers is: 15
Average of 5 numbers is: 3.0

Task 3. Write a program to print only those numbers from a given list that satisfy the following conditions:

- The number must be divisible by 3;
- If the number is greater than 120, then skip it and move to the next number;
- If the number is greater than 300, then stop the loop.

Given: numbers = [12, 75, 151, 108, 147, 324, 30]
Output:
12
75
108

Task 4. Write a program to print all prime numbers within a range.
Note: A Prime Number is a number that cannot be made by multiplying other whole numbers. A prime number is a natural number greater than 1 that is not a product of two smaller natural numbers.
For example, 6 is not a prime number because it can be made by 2×3 = 6. 29 is a prime number because no other whole numbers multiply together to make it.

Input:
Enter starting number: 5
Enter ending number: 50
Output:
Prime numbers between 5 and 50 are:
5
7
11
13
17
19
23
29
31
37
41
43
47

Task 5. Write a program to print Fibonacci series up to a given number of terms.
Note: The Fibonacci Sequence is a series of numbers. The next number is found by adding up the two numbers before it. The first two numbers are 0 and 1.
For example, 0, 1, 1, 2, 3, 5, 8, 13, 21. The next number in this series above is 13+21 = 34.

Input:
Enter number of terms: 10
Output:
Fibonacci sequence:
0 1 1 2 3 5 8 13 21 34