ASSIGNMENT 4
HARD LOOPS

NOTE:

- **No need to submit anywhere, just keep track of all the PDF/Code you made in a specific folder like in VS Code**
- **Compare your solution with the solution I'll provide, in case of doubts, kindly reach out to me after the session**

Q1. Ask a number from user. Make the following pattern.

Example 1
Enter a number = 12
Output
0 1 1 2 3 5 8 13 21 34 55 89

Example 2
Enter a number = 4
Output
0 1 1 2

Q2. Ask a number from user. Make the following pattern as per **entered number.**

Example 1
Enter a number = 17352
Output
17352 1735 173 17 1

Example 2
Enter a number = 987188
Output
987188 98718 9871 987 98 9

Q3. Ask a number from user. Print the factors of that number. (This will be taught tomorrow)

Example 1
Enter a number = 20
Output
1 2 3 5 10 20

Example 2
Enter a number = 50
Output
1 2 5 10 25 50

Example 3
Enter a number = 17
Output
1 17

Q4. Ask a number from user. Print the **Yes** if its a Prime number else print **No.**

Example 1
Enter a number = 20
Output
No

Example 2
Enter a number = 50
Output
No

Example 3
Enter a number = 17
Output
Yes

Q5. Ask the user for a number **n,** then print the sum of the digits of that number.

Example 1
Enter a number = 123
Output
Sum of digits = 6

Example 2
Enter a number = 4567

Output
Sum of digits = 22

Q6. Ask the user for a number n, then print a triangle of numbers with n rows.

Example 1
Enter a number = 5
Output
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

Example 2
Enter a number = 3
Output
1
1 2
1 2 3

Q7. Ask the user for a number **n**, and keep summing the digits of the number until you get a single-digit result.

Example 1
Enter a number = 9875
Output
Single-digit sum = 2
Explanation
(9 + 8 + 7 + 5 = 29 → 2 + 9 = 11 → 1 + 1 = 2)

Example 2
Enter a number = 12345
Output
Single-digit sum = 6
Explanation
(1 + 2 + 3 + 4 + 5 = 15 → 1 + 5 = 6)