Conditional Statements

1. Write a program to check whether a number is even or odd using `if-else`.
2. Write a program to find the largest of three numbers using nested `if`.
3. Write a program that takes a student's marks and prints:
    - Grade A if ≥ 75
    - Grade B if 60–74
    - Grade C if 40–59
    - Fail otherwise.
4. Rewrite Q3 using a switch-case instead of `if-else`.
5. Write a program using `switch` to implement a simple calculator (`+`, `-`, `*`, `/`)

Loops

6. Print the first 10 natural numbers using a `while` loop.
7. Write a program using a `for` loop to print the multiplication table of 7.
8. Print the sum of digits of a number using a `while` loop.
   Example: `1234` → `10`.
9. Write a program using a `do-while` loop that keeps taking input until the user enters `0`.
10. Generate the Fibonacci series up to n terms using a `for` loop.

Nested Loops (Patterns)

11. Print the following pattern using nested `for` loops:

```
*
* *
* * *
* * * *
```

12. Print a number pyramid like this for n=4:	13. Print a reverse star triangle:
1 1 2 1 2 3 1 2 3 4	* * * * * * * * * *

Break, Continue, Goto

14. Write a program that prints numbers from 1 to 10, but skips 5 using `continue`.

15. Write a program to print numbers from 1 to 100, but stop printing when number = 50 using `break`.

16. Write a program using `goto` to print numbers from 1 to 10.

Challenging Exercises

17. Write a program to check if a given number is prime using a loop.

18. Write a program to reverse a number using a loop. Example: 123 → 321.

19. Write a program to find the factorial of a number using both `for` and `while` loops.

20. Write a program to print the following pattern (Pascal's Triangle for n=5):

```
    1
   1 1
  1 2 1
 1 3 3 1
1 4 6 4 1
```