

1. The Gatekeeper (Basic Comparison)

Goal: Create a program that determines if a user is old enough to enter a venue.

- **The Task:** Prompt the user for their age.
 - If they are **18 or older**, print "Access Granted."
 - If they are **under 18**, print "Access Denied."
- **Bonus:** Add a check for "VIP" status. If they are under 18 but have a `hasParentalConsent` boolean set to true, allow them in anyway.

2. The Grade Definer (Else-If Ladders)

Goal: Convert a numerical score into a letter grade.

- **The Task:** Take an integer input (0–100).
 - **90–100:** A
 - **80–89:** B
 - **70–79:** C
 - **60–69:** D
 - **Below 60:** F
- **Constraint:** Ensure your code handles "Invalid input" if the number is less than 0 or greater than 100.

3. Leap Year Calculator (Complex Logic)

Goal: Use the logical AND (&), OR (||), and Modulo (%) operators to find leap years.

- **The Task:** A year is a leap year if:
 1. It is divisible by 4 **AND**
 2. It is **NOT** divisible by 100, **UNLESS** it is also divisible by 400.
- **Example:** 2000 was a leap year, 1900 was not, and 2024 was.

4. The Triangle Validator (Nested Ifs)

Goal: Determine if three lengths can form a triangle and what kind it is.

- **The Task:** Input three integers representing side lengths.
 - First, check if they form a valid triangle (the sum of any two sides must be greater than the third side).
 - If valid, check if it is **Equilateral** (all sides equal), **Isosceles** (two sides equal), or **Scalene** (no sides equal).
- **Logic Tip:** Use nested if statements—one for validity, and inside that, another for the type.

5. Login System Simulation (Logical Operators)

Goal: Practice using the logical "NOT" (!) and string comparisons.

- **The Task:** Hardcode a username ("Admin") and a password ("SafePass123").
 - Ask the user for both.
 - If both match, print "Login Successful."
 - If the username is correct but the password is wrong, print "Incorrect Password."
 - If the username doesn't exist, print "User not found."