

- **Scenario:** A system checks if a user is eligible to vote based on their age.

Write logic to ask the user for their age and determine if they are eligible to vote based on whether they are 18 or older.

1. Ask user to input age
2. If $\text{age} > 18$, print eligible to vote
3. Else print not eligible to vote

- **Scenario:** A program processes a list of numbers and needs to find the largest value.

Write logic to identify and return the largest number from a given list.

1. Read the numbers
2. Assume the first number as the largest and compare with all other numbers in the list

3.If a higher number is found during comparison, set it as the new maximum

4. Compare the new maximum with the remaining numbers

5.Return highest number

- **Scenario:** A company provides employees with a 10% bonus if their salary exceeds \$50,000.

Write logic to determine the bonus amount based on the given salary.

1. Get salary input from employee

2. Check if salary > \$ 50000

3. If yes, calculate bonus. Bonus = $0.1 * \text{salary}$

4. If no, bonus=0

5. Return bonus

- **Scenario:** A program evaluates a number to determine if it is even or odd.

Write logic to check whether a given number is even or odd.

1. Get the number from user
2. If number is divisible by 2, print even
3. Else, print odd

- **Scenario:** A text-processing tool reverses a given word or sentence for formatting purposes.

Write logic to take a word or sentence as input and produce its reversed version.

- 1.read the string and store it as str
- 2.read the string from behind using `str[::-1]`
3. The first 2 semicolon define the default start and end of the string

- **Scenario:** A grading system determines whether a student has passed or failed based on their score.

Write logic to check if a student has passed a subject by scoring at least 40 marks.

1. Get the student marks from user
2. For each subject, check $\text{mark} \geq 40$
3. If yes, print passed
4. Else, print failed

- **Scenario:** A retail store offers a 20% discount if a customer's total order exceeds \$100. Write logic to calculate the final amount to be paid after applying the discount.

1. Get the customer's order amount
2. If $\text{amount} > \$100$, $\text{final amount} = \text{amount} - 0.2 * \text{amount}$
3. If not, $\text{final amount} = \text{amount}$

- **Scenario:** A banking system processes withdrawal requests and ensures the user has enough balance.

1. Get withdrawal amount from user
2. Check if user has minimum balance
3. If yes, $\text{Balance} = \text{balance} - \text{withdrawal amount}$
4. If no, print “no sufficient balance”

- **Scenario:** A calendar system verifies whether a given year is a leap year based on standard leap year rules.

Write logic to determine whether a given year is a leap year.

1. Get year from user
2. Check if $(\text{year} \% 4 == 0 \text{ and } \text{year} \% 100 != 0 \text{ and } \text{year} \% 400 == 0)$
3. If yes, print ‘year is leap year’
4. Else print ‘year is not leap year’

- **Scenario:** A program filters out only even numbers from a given list.

Write logic to extract and return only the even numbers from a list.

1. Get the list from user

2. Run a loop and check if each number is divisible by 2

3. Return a subset of list with numbers satisfying the above condition