

1. **Scenario:** A program needs to find the second largest number in a given list of numbers.

Write logic to find the second largest number in a given list.

- Read the list of input number
- Sort the number and reverse it.
- Print the result based on index[1].

2. **Scenario:** A function needs to convert an integer to its binary representation without using Python's built-in `bin()` function.

Write logic to convert a given integer to its binary representation.

- Read the integer value
- Take modulus of 2 of input value. Save the remainder.
- Reassign the quotient as main value.
- Repeat the process up to the remainder value become zero.
- Reverse the saved remainder value.
- Print the remainder value as result.

3. **Scenario:** A function needs to merge two sorted lists into a single sorted list efficiently.

Write logic to merge two sorted lists into one sorted list.

- Read two input list
- Merge two input list using '+' operator
- Print the merged list

4. **Scenario:** A function needs to find the first non-repeating character in a string for text processing.

Write logic to find the first non-repeating character in a given string.

- Read the input string
- Iterate the input string and count the number of frequencies of the character
- Save as dictionary value. Check the value =1 then again save as dictionary value
- Print the first index as result.

5. **Scenario:** A program needs to identify common elements between two lists for data filtering.

Write logic to find the common elements between two lists.

- Read the two list
- Convert the two list as set to avoid duplicates

- c. Assign the two list to new list using and operator
 - d. Print the result
6. **Scenario:** A function is required to reverse a given number.

Write logic to reverse a given number.

- a. Read the input number
 - b. Make it as string. Reverse the sting using slicing method [::-1]
 - c. Print the result as integer
7. **Scenario:** A program needs to count the number of words in a given sentence.

Write logic to count the number of words in a given sentence.

- a. Read the input sentence
 - b. Split the input sentence without space.
 - c. Count the word
 - d. Print the result.
8. **Scenario:** A function needs to compute the factorial of a number using iteration instead of recursion.

Write logic to find the factorial of a given number using iteration.

- a. Read the input value
 - b. Check the condition if value = 0 or 1 and return 1
 - c. Check if the value grater than 1. Using loop to iterate the value n+1
 - d. Multiply the value and store to another variable
 - e. Print the result.
9. **Scenario:** A program is required to convert all strings in a list to uppercase.

Write logic to convert all strings in a list to uppercase.

- a. Read the input string list
 - b. Iterate the input list using for loop
 - c. Convert the string into upper case and append to the another list
 - d. Repeat the process till input list ends
 - e. Print the result list
10. **Scenario:** A function is needed to compute the greatest common divisor (GCD) of two numbers using the Euclidean algorithm.

Write logic to calculate the GCD of two numbers using the Euclidean algorithm.

- a. Read the two input values
- b. Using the loop and check the second value is not equal to zero

- c. Then assign second value to first and second value is updated as the remainder of first and second
- d. Process will continue till the second value become zero
- e. Print the first value as result

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