1. Scenario: A user is required to enter a valid number in a form, but users sometimes input invalid data.
Write logic to repeatedly prompt the user until they enter a valid integer
SOLUTION :
> get an input from the user
> use the try- except to check whether the input is integer or not
> number == int(number), print -> it is a valid data
> except , print -> please enter a valid input data

2. Scenario: A data analysis tool processes a list of numbers and needs to identify the most frequently occurring value.
Write logic to find the most frequently occurring number in a given list
SOLUTION :
>get a list from the user
> use dictionary to get a value
> using for loop and if condition increase store the count and value in the dictionary
> then print the most occured value

3. Scenario: A text-processing application needs to compare words and check if they are anagrams (contain the same letters in a different order).
Write logic to determine whether two given strings are anagrams.

SOLUTION :
> get two input string from the user
> sort both the strings
> if string 1 and string 2 are equal , print ,it is an anagrams
> else , print -> NOT an anagram

4. Scenario: A speech analysis program needs to count the number of vowel sounds in a given input.
Write logic to count the number of vowels in a given string.

SOLUTION :
>get a word from the user
> declare vowel words in a variable as a string
> using for and if , check the condition that if the temp var has any of the vowel word
> add 1 to the count
> print the count after exits from the for loop

5. Scenario: A text-editing software includes a feature to reverse the order of words in a sentence for stylistic effects.
Write logic to reverse the order of words in a sentence while keeping the words themselves intact.

SOLUTION :
>get an input from the user
> declare a new variable and use the split function to split the sentence into words for storing the reversed sentence
> reverse the sentence using string inbuilt function , ' '.join(words[::-1])
> print the reversed sentence

6. Scenario: A missing number is detected in a sequence of values stored in a database.
Write logic to find the missing number in a list containing n-1 numbers from 1 to n.

SOLUTION :
> get a list input from the user
> use function :
> in sequence of numbers, find totalsum - actual sum
> formula is n(n+1)/2 , now you will get the n value -> total sum
> for actual sum, sum(list)
> subtract both total sum and actual sum -> missing number
> print it

7. Scenario: An ATM machine processes withdrawal requests and needs to ensure that users cannot withdraw more than their account balance.
Write logic to allow a withdrawal only if the balance is sufficient.

SOLUTION :
> get an input from the user(current balalnce)
> another input for (withdrawal request)
> if withdrawal request is more than the current balance
> print insuffucient balance
> Else, withdraw the money and subtract current balance and withdrawal money
> and store it in the current balance

8. Scenario: A system needs to verify whether a given dataset contains duplicate entries.
Write logic to check whether a given list contains duplicate values

SOLUTION :
> Get a list from the user
> initialize a dictionary # d = {}
> using for loop , try to run a list, initialize 1 , if it is not in d, for every value
> if the same number occurs twice increase the count to 2 , and print the duplicated value

9. Scenario: A digital calculator includes a feature to sum the digits of a number for verification purposes.
Write logic to calculate the sum of all digits in a given integer

SOLUTION :
> get an input from the user
> using modulus operator and divided by 10
> take the last digit add it with the other upcoming digits
> print the result

10. Scenario: A language-learning app wants to verify whether a given sentence is a pangram (contains every letter of the alphabet at least once).
Write logic to check if a given sentence is a pangram.

SOLUTION :
> get a string input from the user
> using function , get a lowercase value of ascii character and store it in a variable
> now, using issubeset function , compare both the input text and the ascii lowercase characters
> if both are same , it returns true and the pangram message will display
> else , it returns false, not a pangram will display