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.

   Logic:
   1) Get input from the user
   2) Check if the input is of integer form using if statement. If yes, accept the value
   3) If not integer/ mixed type, using else print "Try again"

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.

   Logic:
   1) Store the list of numbers in a list
   2) Initialize a variable to get the count. Using Loop, iterate through the list items
   3) If same number is repeated the count value increases
   4) After counting, return the list item that has the max count with its count value to the user.

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.

   Logic:
   1) Get 2 string inputs from user
   2) Sort both strings
   3) Compare both strings
   4) If every word is present in the other string, print "They are anagrams"

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.

   Logic:
   1) Get string input from the user
   2) Create a variable Count and a list containing all the possible vowels
   3) If input matches with the vowel string, increment the count
   4) Print the count after fully verifying.

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.

Logic:
1) Get the sentence
2) Using [::-1] reverse the string and store in separate variable
3) Print the variable

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.

   Logic:
   1) Take a list of numbers from 1 to n but one number is missing.
   2) Calculate the expected total sum of numbers from 1 to n using the formula:
      sum = n * (n + 1) / 2
   3) Find the actual sum of numbers present in the list.
   4) Subtract the actual sum from the expected sum.
   5) The result is the missing number.

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.

   Logic:
   1) Check the user balance
   2) If input value > balance, print" cannot withdraw"
   3) Else continue the withdrawal process

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.

   Logic:
   1) Get the input list
   2) Iterate the list entries and store in a separate list
   3) While iterating the original list, compare with the newly created list
   4) If duplicate entries, print("Duplicate entry detected")
   5) Else continue the operation.

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.

Logic:
1) Get the number as integer
2) Get the digits separately by looping
3) While looping make a new variable and add with the digits
4) Print the new variable

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.

Logic:

1) Get the sentence as String
2) Iterate it and compare with another set that contains every Letter of the alphabet
3) If not present in the alphabet list, print "Not a panagram"
4) Else print ("panagram")