Scenario-Based Questions
Solutions

1. **Scenario: Identifying Transaction Type**

   Logic:

   - Read the input number.
   - If the number is greater than 0, print "Positive (Deposit)".
   - Else if the number is less than 0, print "Negative (Withdrawal)".
   - Else, print "Zero (No Transaction)".

2. **Scenario: Summing the Digits of a Number**

   Logic:
   - Read the input number.
   - Convert the number into individual digits.
   - Initialize a sum variable to 0.
   - For each digit in the number, add it to the sum variable.
   - Print the sum of the digits.

3. **Scenario: Reversing a Transaction ID**

   Logic:
   - Read the input number.
   - Convert the number into a string.
   - Reverse the string.
   - Convert it back to a number.
   - Print the reversed number.

4. **Scenario: Checking if a Number is Prime**

   Logic:
   - Read the input number.
   - If the number is less than 2, print "Not Prime".
   - Loop from 2 to the square root of the number:
     - If the number is divisible by any of these values, print "Not Prime" and exit.
   - If no divisors are found, print "Prime".

5. **Scenario: Finding the Factorial Using Recursion**

   Logic:
   - Read the input number.
   - If the number is 0 or 1, return 1.
   - Else, return the number multiplied by the factorial of (number - 1).
   - Print the result.

6. **Scenario: Checking if a Number is an Armstrong Number**

Logic:

- Read the input number.
- Count the number of digits.
- Initialize a sum variable to 0.
- For each digit in the number:
    - Raise the digit to the power of the total number of digits.
    - Add the result to the sum variable.
- If the sum is equal to the original number, print "Armstrong Number".
- Else, print "Not an Armstrong Number".

7. **Scenario: Swapping First and Last Characters of a String**

Logic:

- Read the input string.
- If the string length is less than 2, print the string as is.
- Swap the first and last characters while keeping the middle part unchanged.
- Print the modified string.

8. **Scenario: Converting Decimal to Binary**

Logic:

- Read the input decimal number.
- Initialize an empty string for binary representation.
- While the number is greater than 0:
    - Divide the number by 2 and store the remainder.
    - Add the remainder to the binary string.
    - Update the number by dividing it by 2.
- Reverse the binary string.
- Print the binary representation.

9. **Scenario: Finding the Longest Word in a Sentence**

Logic:

- Read the input sentence.
- Split the sentence into individual words.
- Initialize a variable to store the longest word.
- Loop through each word:
- if the current word is longer than the stored longest word, update the longest word.
- Print the longest word.

10. **Scenario: Checking if Two Strings are Anagrams**

Logic:

- Read the two input strings.
- Remove spaces and convert both strings to lowercase.
- Sort the characters of both strings.
- If the sorted versions of both strings are identical, print "Anagram".
- Else, print "Not an Anagram".