Special Force Lab Assignment Three

Problem Statement 1:
You are given three integer variables, a, b, and c. Write a Java function that finds the largest of these three numbers. The function should take three integer arguments and return the largest number.

Note : The function should be implemented using the following conditions:

Do not use any built-in functions to find the largest number.
Do not use if-else statements or ternary operators.
The function should return an error message if any of the input values are negative.
Example:
Input: a = 10, b = 15, c = 5
Output: 15

Problem Statement 2:
You are given an integer n. Write a Java function that generates the Fibonacci series up to the nth term. The function should take an integer argument and return the Fibonacci series as a string.

Note : The function should be implemented using the following conditions:

Do not use any built-in functions to generate the Fibonacci series.
The function should return an error message if the input value is negative.
Example:
Input: n = 6
Output: "0 1 1 2 3 5"

Problem Statement 3:
You are given an integer n. Write a Java function that checks whether the given number is prime or not. The function should take an integer argument and return a boolean value indicating whether the number is prime or not.

Note : The function should be implemented using the following conditions:

Do not use any built-in functions to check for prime numbers.
The function should return an error message if the input value is negative.
Example:
Input: n = 7
Output: true

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Problem Statement 4:
You are given a string input. Write a Java function that counts the occurrences of a character in the string and the total number of words in the string. The function should meet the following requirements:

- Count the occurrences of a character in the string without using any built-in functions.
- Count the number of words in the string without using any built-in functions.
- The function should be case-insensitive, meaning that uppercase and lowercase letters should be treated as the same character.
- Ignore all special characters, numbers, and spaces while counting the occurrences of a character and the number of words in the string.
- The function should return an array of two integers, where the first element represents the occurrences of the character and the second element represents the total number of words in the string.

Input: "The quick brown fox jumps over the lazy dog, but the dog is faster."
Character to count: "o"

Output: [5, 14]

Problem Statement 5:
You are given a string input. Write a Java function that reverses each word in the string and prints the duplicate characters from the string. The function should meet the following requirements:

- The function should reverse each word in the string without using any built-in functions.
- The function should print the duplicate characters from the string without using any built-in functions.
- The function should be case-insensitive, meaning that uppercase and lowercase letters should be treated as the same character.
- Ignore all special characters, numbers, and spaces while printing the duplicate characters and reversing each word.
- The function should print the reversed words and duplicate characters separately.
- The function should handle multiple occurrences of duplicate characters and should print them only once.
- The function should return nothing and only print the results to the console.

Example:
Input: "Hello World! How are you today?"
Output:
Reversed words: "olleH !dlroW woH era uoy yadot?"
Duplicate characters: "loWrdHaeouy"

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Note : Submit code solution with output screenshot of all the different cases.
Either Submit pdf or screenshots of ‘code + screenshot’, that is upto you.

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