

American University of Nigeria
School of Information Technology & Computing
CIE 106 Principles of Programming II

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Instructions

- No collaboration with other students is permitted on this examination, duplicate submissions will receive a zero(0) with additional penalties to all participants.
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Question 1

Create a class called CIE106Finals. Inside the class, Implement the two methods; equalInHas(String str) and reOrder56(Int[] nums) described below. Use the main() to test each of the two methods by storing there return values Inside a variable and using println() to output the values In those variables.

- Given a string of characters, write a static method equalInHas(String str) that returns true if the number of occurrences of "in" anywhere in the string is equal to the number of occurrences of "has" anywhere in the string (case sensitive).

e.g

```
equalInHas ("inside the vessel it has to be or not in") → false  
equalInHas ("Thin has ") → true  
equalInHas("hasviooininhshastyion") → true
```

Note: only a single loop is allowed

- Write a static method reOrder56(int[] nums) that return an array that contains exactly the same numbers as the given array, but has been reordered so that every 5 is immediately followed by a 6. You may choose to move every other number with the exception of 5; You are not to move 5. The array contains the same number of 5's and 6's, every 5 has a number after it that is not a 5, and a 6 appears in the array before any 6.

e.g

```
reOrder56([1, 5, 1, 6]) → [1, 5, 6, 1]
reOrder56([1, 5, 1, 6, 6, 5, 1]) → [1, 5, 6, 1, 1, 5, 6]
reOrder56([5, 2, 2, 6]) → [5, 6, 2, 2]
reOrder56([1]) → [1]
reOrder56([]) → []
```

Question 2

Suppose we are in the business of selling bouquets of flowers for event planners. We offer the following six variety to our customers: white rose, red rose, daisy, tulip, lily, and jasmine. We will record a customer's order as an array of six integer values, representing the number of bouquets of each kind of flower. Write a static method `initialOrder` that takes a total order and the next order and returns an array that represents the initial order. For example, if `totalOrder` contains 13, 12, 10, 11, 20, and 5, and `secondOrder` contains 8, 10, 5, 9, 13, and 3, then the method should return an array containing 5, 2, 5, 2, 7, and 2.