

## Question Set 1

*Guidelines:*

1. While giving questions, request “not to use any collection (java) or template / STL (C++) classes”.
2. Please answer all 3 questions.
3. Request you not to use Google or any other reference books for solving this paper.
4. Please attach this word file along with answers & share it back within 5 hours from receipt of this paper.
5. Please enter below personal details before you answer this.

Candidate Name: - \_\_\_\_\_

Mobile: - \_\_\_\_\_

Test Date: - \_\_\_\_\_

Start Time: - \_\_\_\_\_ End Time: - \_\_\_\_\_

### General (language independent)

Q1: There is an array of non-negative integers. A second array is formed by shuffling the elements of the first array and deleting a random element. Given these two arrays, find which element is missing in the second array. Here is an example input, the first array is shuffled and the number 5 is removed to construct the second array

First Array = [4,1,0,2,9,6,8,7,5,3]

Second array = [6,4,7,2,1,0,8,3,9]

Q2. Write a program which will find all occurrences of the pattern of length ‘n’ within a string of length ‘l’

Example:

Pattern: adfgmnst

String: asnmnshtadfgmnstksjdkjhasdjkaasdsadgdfgmstsdjadaklsjdklka

### Java specific:

Q3. Modify this class’ definition (by adding or changing code) to make it behave as a Singleton:

```
public class Counter {
```

```
    private int num;
```

```
    public Counter() {
```

```
    }
```

```
}
```

```
    this.num = 0;
```

Are there any issues while multi-threading? How would you solve it?