# Part 1

## Programming Challenge 1:

You are to create two small applications for this programming task; one is called Randomizer, the other Prime Randomizer‘s job is to generate a series of positive random integers and send those to Prime via a distributed queue of integers.

Primes job is to receive the integers and calculate whether the integer is a prime or not and return the answer to Randomizer via a distributed queue ( just a java Queue implementation , no need to implement JMS etc ) that contains the original number and a Boolean; which Randomizer will print to system out.

Points

1. Use only the standard java library

2. Both Applications will run on the same server

3. The system should be as fast as possible

4. The results do not have to be returned in the same order as received

5. You don’t have to go overboard tweaking the prime check

Deliverable

1. A project with code – eclipse or any IDE that you are using. However, eclipse is preferable
2. A Readme.txt should contain the following
   1. What is your design and implementation?
   2. Sample Output
   3. Further work – if you have all the time in the world how would you implement

## Programming Challenge 2:

1)      Reverse of a string without reverse method.

2)      Please create a class for the below and send it,

We have a table which has 4 columns as id, name, phone and address.

You need to have a method which will return me the data.

Create a method where you can hard code the data and print the details.

The main aim of above example is how you use data structure.

# Part 2

## Representative Questions – Please write your answers with an example for each questions.

* How do you design an application with JMS messaging?
* How do you handle exception in JMS consumers and how to you recover?
* How do you implement LRU or MRU cache?
* How would you implement Executor Service?
* Describe singleton design pattern – how would you implement?
* Describe properties of Java String.

## Deliverable

1. Simple document with Question and corresponding answers. If you have used data from anywhere please include reference.