University of Dhaka

Department of Computer Science and Engineering

CSE 4211: Distributed Systems Lab

**Assignment Code: A4**

**Assignment Title: JAVA RMI**

**Date of Assignment: 25/10/2016**

**Last Date of Submission: 31/10/2016**

**Objectives:**

The objective of this assignment is to write an application that can decipher an encrypted text from a text file (Cipher.txt) stored in a remote server without downloading the file. There will be a remote server that will host the file with the encrypted message and a tabula recta (TabulaRecta.txt) for Vigenere cipher. The complete message is in uppercase letters only. There will be two clients. One of the clients will try to decrypt the text using keyed Caesar cipher and the other client will try to decipher he text using Vigenere cipher. The functions or libraries necessary file manipulation and calculation will be hosted by the remote server only. For both clients, the keyword is – GORDIAN. The clients will only invoke the methods from the remote server to decipher the message. The responsibilities of the clients are only limited to parsing and displaying the message. No local instances of the file will not be allowed and if found, the evaluation will be cancelled for that specific group. You MUST use JAVA RMI for this assignment.

You will be assessed based on the following criteria.

1. Remote Server:
   1. The remote server will hold all necessary files and libraries.
   2. The complete deciphering must be done by invoking methods from the remote server.
2. Client:
   1. One of the client will be responsible for deciphering the text using keyed Caesar cipher.
   2. The other client will be responsible for deciphering the text using Vigenere cipher.
   3. Clients are only responsible for parsing and displaying the message.
3. Technicality:
   1. Your code should be legible.
   2. The code MUST be portable and dynamic. Your system might be evaluated using several different encrypted messages.
   3. Your system MUST be able to perform proper communication with the remote server through RMI. Any local instance of any files – that are supposed to be residing in remote server will end in a disqualification.

**Marks:**

1. Your code will net you 60% marks.
2. The rest of the marks (40%) will be distributed via Viva and Testing.

**Deliverables:**

1. A single package containing all necessary files, codes and instructions for running the program on a generic machine.

The deliverables are to be sent in a single compressed package by email. The compressed filename must be of the format: [Roll No.]\_[Assignment Code].

**Submission Format:**

The assignment must be submitted by email. The email must have the following formatting. The submission will not be accepted if the format is not in the correct order.

Subject: [Assignment Code] [Assignment Title] [Roll No]

Body: Assignment Code

Assignment Name

Roll No.

Date of Assignment

Date of Submission

1. Attachment: A single package containing all necessary files, codes and instructions for running the program on a generic machine. The compressed filename must be of the format: [Roll No.]\_[Assignment Code].

**Example Format:**

Subject: [A4] [JAVA RMI] [SH – 017]

Body: Assignment Code: A4

Assignment Name: JAVA RMI

Roll No. SH – 017

Date of Assignment: 25/10/2016

Date of Submission: 31/10/2016

Attachment: SH-017\_A4.tar / SH-017\_A4.zip

Penalty:

1. Plagiarism: If it can be proven beyond reasonable doubt that the assignment code(s) was plagiarized, the code will be invalid and no marks will be attributed.
2. Local Instance: If any local instance of any files – that are supposed to be residing in remote server is found, your code will be disqualified.
3. Late Submission: Failure to submit the assignment on time will result in 50% cumulative reduced mark which will be activated each week after the original submission date has passed.