M'sila University, Department of Computer Science, ISIL

COURSE: DISTRIBUTED INFORMATION SYSTEMS   **DR. R. BENTRCIA**

TP 3: Distributed Information Systems

Required software:

- Java Software Development Kit (jdk 1.8 or later)
- Java editor such as JCreator

Exercise 1:

Implement a java RMI application where the client and the server exchange messages as follows:

When the server is online:

Client: Hi, how are you?

Server: I'm fine, who are you?

Client: I am the client!

Server: Nice to hear from you client!

When the server is offline, it will display "**The server is off, try again later!**". The client should stop sending the next message.

1. In your desktop, create a folder TP3.
2. Open JCeator editor.
3. Write your remote interface, client, and server java files.
4. Save the three files in TP3 and compile by selecting **Build-Build file**.
5. To run the application, you can follow these steps:
    a. Open the command window by typing **cmd** and type **cd desktop** then press enter.
    b. Type **cd TP3** then press enter.
    c. Type **start rmiregistry** then press enter.
    d. Open the three files separately. Just double click on each java file.
    e. **Run** the server program from JCreator menu.
    f. **Run** the client program from JCreator menu.

Output :

1- The server is off

```
General Output
-------------------Configuration: <Default>-
Client: Hi, how are you?
The server is off, try again later!
|
```

2- The server is on

```
General Output
-------------------Configuration:
Client: Hi, how are you?
Client: I am the client!
```

```
General Output
-------------------Configuration: <Defau
Server: I'm fine, who are you?
Server: Nice to hear from you client!

Process completed.
```

Exercise 2:

Implement a java RMI application which performs four operations using two numbers x and y.

1. The client must enter two numbers from the keyboard and send them to the server.
2. The server must add, subtract, multiply, and divide the two numbers. The results are returned to the client.
3. Follow the same steps explained previously in exercise 1 to implement and run this application.

Output :

```
General Output
Enter the first number:
12
Enter the second number:
13
The addition result is 25
The subtraction result is -1
The multiplication result is 156
The division result is 0
```