

**INSTRUCTION:**

Design and implement a Java application for the application described below. You must apply `Proxy` Design Pattern.

A Pizza Company has its outlets at various locations. The owner of the company gets a daily report by the staff members of the company from various outlets. The current application supported by the Pizza Company is a desktop application, not a web application. So, the owner has to ask his employees to generate the report and send it to him. But now the owner wants to generate and check the report by his own, so that he can generate it whenever he wants without anyone's help. The owner wants you to develop an application for him.

The problem here is that all applications are running at their respective JVMs and the Report Checker application (which you will design soon) should run in the owner's local system. The object required to generate the report does not exist in the owner's system JVM and you cannot directly call on the remote object.

- 1) Use `Remote Proxy` to solve the problem above. Assume that there is an interface `ReportGenerator` and its concrete implementation `ReportGeneratorImpl` is already running at JVMs of different locations.

`ReportGenerator` interface only has one method, as below:

```
public String generateDailyReport() throws RemoteException;
```

`ReportGeneratorClient` class serves as the client that will use the remote service. Draw a UML class diagram to show your design for the system.

- 2) Implement your design in Java. Test your implementation by the steps below and generate the following output.
  - a) Bring up a terminal and start the registry by typing the command `rmiregistry`. Be sure to start it from a directory that has access to your classes.
  - b) Start the service, in other words run your concrete implementation of the remote class (i.e. `ReportGeneratorImpl`).
  - c) Run the client (i.e. `ReportGeneratorClient`) that will use the service.

```
*****Location X Daily Report*****
Location ID: 012
Today's Date: Sun Dec 02 19:25:12 SGT 2018
Total Pizza's Sell: 112
Total Price: $2534
Net Profit: $1985
*****
```