## Design/Coding Exercise

\* You may not use any external libraries to solve the problem itself, but you may use external libraries or tools for building and/or testing purposes.

## How we evaluate your code

We will be looking at a number of things including the design aspect of your solution and your object oriented programming skills. Whilst these are small problems, we expect you to submit what you believe is “production-quality” code that you would be able to run, maintain and evolve. You do not need to “gold plate” your solution, but we are looking for something more than a bare-bones algorithm. You should submit code that you would be happy to produce in a real project, or that you would be happy to receive from a colleague. A quick `README` explaining how to run your program will no doubt help.

**##Problem 1 : Server status dashboard (Java)**

Write a Java program to check a Server Status file (SERVER\_STATUS.txt) every 5 mins and issue a RED/AMBER/GREEN alert. The time interval should be easily adjustable so that the user can change it to adjust frequency of runs.

SERVER\_STATUS.txt contains 3 columns : - App\_name, Servers\_offline, Status

Example :-

Input 1

IVR 2/3 WARNING

EBS 0/3 OK

Output should be:-

RED Alert for IVR

Input 2

IVR 1/3 WARNING

EBS 0/3 OK

Output should be : -

AMBER Alert for IVR

Input 3

IVR 3/3 CRITICAL

EBS 1/3 OK

Output should be :-

RED Alert for IVR

AMBER Alert for EBS

Input 4:-

IVR 0/3 OK

EBS 0/3 OK

Output should be

NO Alerts

**## Problem 2 : Server Status dashboard (UNIX shell script)**

Write a Unix Shell script to achieve the same result as problem 1 using UNIX.

**## Problem 3 : Swap numbers**

Write a Java program to swap 2 numbers without using a 3rd variable

Example :

value of a and b before swapping, a: 10 b: 20

value of a and b after swapping, a: 20 b: 10

**## Problem 4 :**

Write a command to find the sum of the amount field in the below file and show a split between transactions during 15:00 hrs, 16:00 hrs and 17:00 hrs.



File Format

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Data Type** | **Length** | **Content** |
| Record Type | Character | 1 | D |
| Card Number | Character | 19 |  |
| Payment Currency | Character | 3 | e.g. GBP |
| Payment Sign | Character | 1 | - = credit + = debit |
| Payment Amount | Numeric | 18 | e.g. 9999999.99 |
| Auth Code | Character | 6 | 234567 |
| Transaction Timestamp | Character | 19 |  |
| Transaction reference | Character | 23 |  |
| Customer ID | Character | 35 |  |
| FILLER | Character | 41 |  |