## Software Development Task

You are asked to write a piece of code that produces a “Portfolio Change Report” showing the differences in a client’s Portfolio Margin Report between two dates. Below shows the format of the Margin Report

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Margin Report Day 1** | | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Instrument** | **Code** | **Position Type** | **Quantity** | **Unit Price (Local)** | **Value  (Local)** | **Exposure  (Local)** | **Price Ccy** | **FX Rate** | **Instrument Class** | **Exposure  (USD)** | **Requirement  (USD)** | **%Req** |
| CT PPTY TR ORD | CTPT LN | Cash | 2,556,887 | 0.7300 | 1,866,528 | 1,866,528 | GBP | 1.2352 | Equity | 2,847,797 | 2,242,554 | 78.75 |
| TRIAN INVESTORS 1 ORD | TI1 LN | Cash | 1,333,000 | 1.8400 | 2,452,720 | 2,452,720 | GBP | 1.2352 | Equity | 3,742,162 | 3,706,765 | 99.05 |
| UMG ORD | UMG NA | Synthetic | -44,000 | 23.6350 | -49,500 | -1,039,940 | EUR | 1.0851 | Equity | -1,224,469 | 183,670 | 15.00 |
| VPC SPECIALTY LENDING INVESTS ORD | VSL LN | Cash | 1,070,295 | 0.8380 | 896,907 | 896,907 | GBP | 1.2352 | Equity | 1,368,428 | 907,794 | 66.34 |
| AFRICA OPPORTUNITY ORD | AOF LN | Fully Paid | 2,760,062 | 0.5400 | 1,490,433 | 1,490,433 | USD | 1.0000 | Equity | 1,490,433 | 1,490,433 | 100.00 |
| ALLIED MINDS ORD | ALM LN | Fully Paid | 18,462,237 | 0.1385 | 2,557,020 | 2,557,020 | GBP | 1.2352 | Equity | 3,901,294 | 3,901,294 | 100.00 |

Your program should show changes in Quantity, Price, Local Value, Local Exposure, USD Value, USD Exposure, Requirement and % Req. Further it should group and summarise the differences by Instrument Class, Currency and Position Type.

It is possible that some of the positions in the Day 1 report do not exist in the Day 2 report and vice versa. This is because the client may have traded into or out of these positions. Your code should take this into account and process accordingly.

You may use any procedural programming language that you choose. We ask that you send a copy of your code to us the day before we meet for the interview.