

The Brief

Automation Objectives

1. Write a program to automate reports for the CEO of Superstore. The program will perform the following using the transaction data - [superstore_transaction.csv](#):
 - a. Make an API call to <https://www.getexchangr.com/> to extract the real time exchange rate with the following API parameters:
 - i. base = "SGD"
 - ii. symbols = "USD"
 - iii. endpoint = "latest"
 - b. Extract the customer details who have the highest sales and highest profit value from the profit and sales columns. Note that the unit value is in Singapore Dollars.
 - c. Compute the total number of unique customers. The transaction data contains names of repeated customers.
 - d. Write the information of **point a** to **point c** to a simple text file (.txt) and name it as [summary_report.txt](#). Refer to figure 1.0 for the expected output of [summary_report.txt](#).

Files and Project Directory

You should organise your program and csv files into the following folder structure:

Folder : alternate_assignment

```
| api.py  
| customers.py  
| sales_profit.py  
| superstore_transaction.csv
```

Dedicate each python file to achieve specific tasks. For example, the [api.py](#) should only contain codes that find the real time exchange rate, [sales_profit.py](#) contain codes that find the highest profit and sales and [customers.py](#) compute the total number of customers.

When the files are executed sequentially, the files will write the expected output to [summary_report.txt](#).

Organizing code this way makes the overall program more manageable, easier to maintain and debug errors

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Coding Skills

To complete the assignment successfully, you need to use only the programming topics learn from PFB, unless given the permission to do so.

The use of external modules not taught will severely affect the grade. External module refers to additional module installed with pip install command.

However, you may use any **built-in** functions or/and modules.

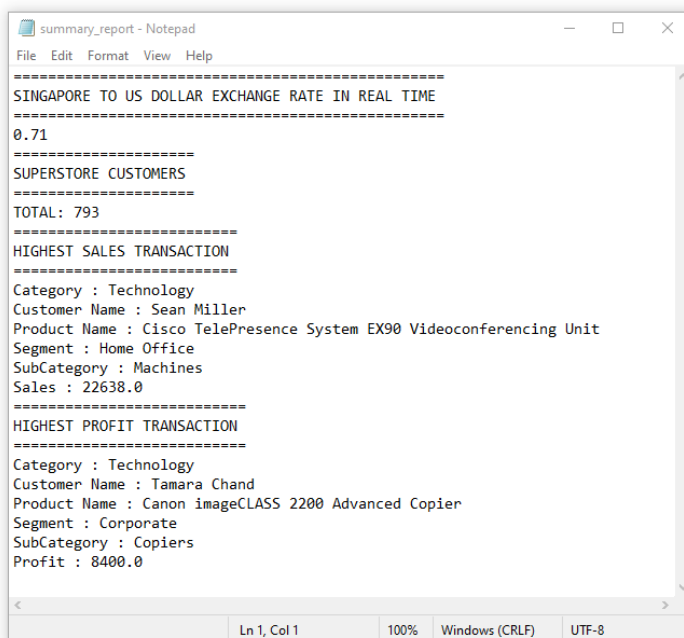
Standard Criteria

The project will be evaluated based on:

1. Program Correctness
2. Code Readability
3. Code Elegance/ Efficiency
4. Code Documentation
5. Assignment Specification

Figure 1.0 – summary_report.txt

When [api.py](#), [customers.py](#) and [sales_profit.py](#) is executed sequentially, the output of the summary report should contain the follow information as shown.



```
summary_report - Notepad
File Edit Format View Help
=====
SINGAPORE TO US DOLLAR EXCHANGE RATE IN REAL TIME
=====
0.71
=====
SUPERSTORE CUSTOMERS
=====
TOTAL: 793
=====
HIGHEST SALES TRANSACTION
=====
Category : Technology
Customer Name : Sean Miller
Product Name : Cisco TelePresence System EX90 Videoconferencing Unit
Segment : Home Office
SubCategory : Machines
Sales : 22638.0
=====
HIGHEST PROFIT TRANSACTION
=====
Category : Technology
Customer Name : Tamara Chand
Product Name : Canon imageCLASS 2200 Advanced Copier
Segment : Corporate
SubCategory : Copiers
Profit : 8400.0
=====
Ln 1, Col 1 100% Windows (CRLF) UTF-8
```