Java Technical Test

Expectations

Treat this exercise as if it was a task you were implementing as part of a normal working day. In your submission you are expected to include everything you would commit to source control before signing off the task as production ready.

- No database or UI is required
- You can assume the code will only ever be executed in a single threaded environment
- Minimise the number of external jar dependencies your code has. We would expect a maximum of 1 or two would be required.
- All data to be in memory.
- Output format to be plain text, printed out to the console.
- Create more sample data as needed.
- We would expect you to spend somewhere in the region of about 3 hours on this exercise.

The problem

Implement a small message processing application that satisfies the below requirements for processing sales notification messages. You should assume that an external company will be sending you the input messages, but for the purposes of this exercise you are free to define the interfaces.

Processing requirements

- All sales must be recorded
- All messages must be processed
- After every 10th message received your application should log a report detailing the number of sales of each product and their total value.
- After 50 messages your application should log that it is pausing, stop accepting new messages and log a report of the adjustments that have been made to each sale type while the application was running.

Sales and Messages

- A sale has a product type field and a value – you should choose sensible types for these.
- Any number of different product types can be expected. There is no fixed set.
- A message notifying you of a sale could be one of the following types
    - o Message Type 1 – contains the details of 1 sale E.g apple at 10p
    - o Message Type 2 – contains the details of a sale and the number of occurrences of that sale. E.g 20 sales of apples at 10p each.
    - o Message Type 3 – contains the details of a sale and an adjustment operation to be applied to all stored sales of this product type. Operations can be add, subtract, or multiply e.g Add 20p apples would instruct your application to add 20p to each sale of apples you have recorded.