KennethChung_software_engineer_exercise.zip

Design

This Java application has following objective:

i. Retrieve the Candle Stick JSON data from crypto.com and verify its data.
ii. Retrieve the Trade JSON data from crypto.com and verify its data.
iii. Parse the Candle Stick and Trade JSON and convert into java objects.
iv. Looping the Candle stick objects and compare the Trade objects, to verify the consistency between 1 minute Candle Stick Vs Trade for a given minute:

a. If the minute has only 1 trade, expect O, H, L, C to be the same as the price of the trade.
b. If the minute has only 2 trades, expect that
  i. O is the price of the first trade
  ii. C is the price of the last trade
  iii. H is the highest price from the 1st trade and 2nd trade
  iv. L is the lowest price from the 1st trade and 2nd trade

Installation

This Java application is developed using gradle.

i. Firstly, download the KennethChung_software_engineer_exercise.zip into your local machine and unzip it.
ii. Follow the instrument https://gradle.org/install/ to install gradle into your local machine.
iii. It is ready to run

Execution

Go the unzip demo directory

Run the following command to build/compile the java file

```
> ./gradlew build
```

Run the following command to execute the main application

```
> ./gradlew run
```

Test Case

Once you run the main application: *MarketDataValidator.main*

i. It will download the Candle Stick JSON from crypto.com and showing in console

```
Downloading the CandleStick JSON
```

ii. Using the JSON to create the Candle Stick java object

```
*** Generating CandleStick object
```

iii. Next, It will download the Trade JSON from crypto.com and showing in console

```
Downloading the Trade JSON
```

iv. Using the JSON to create the Trade java object

```
********** Generating Trade object
```

v. Loop thru the candle stick intervals vs the trades within these period of time

```
CandleSTick1--Time:>1648303020000 O: 44259.51, H:44282.72,
L:44258.52, C:44278.96
CandleSTick2--Time:>1648303080000 O: 44279.58, H:44283.08,
L:44278.82, C:44279.6
Trade1 price:44278.96
```

vi. If there are non consistent Trade, it will list out their Trade ID

```
Failed trades ID:2364455971948651168
Failed trades ID:2364455959732510912
Failed trades ID:2364455959065789344
Failed trades ID:2364455943686927520
```

v. Also, while compiling the java application, the Junit test will validate the Candle Stick and Trade JSON records. i.e. demo.AppTest

End