CODING ROUND

Instructions:

- You will have to code the below problem using the Java language only, however you are free to use any open source Java library/framework.
- We would evaluate your code using both automation and manual processes. So please give it your best shot - use your best design, your best coding practices, et al.
- You will have to complete this coding assignment within 48 hours of receiving this, if you would need more time, please contact your consultant explaining the reason.
- We have tried to define the problem as clearly as possible, however if you have any questions you can contact us.
- After you are done, you will need to push the code to your private github repository.
- You will then need to invite github user **coding-interview** as a collaborator to view your code.

    https://help.github.com/en/articles/inviting-collaborators-to-a-personal-repository

- After all the above is done, please email back along with your github userid.
- We may fork your code to evaluate it and for future references. We shall however not use it in any of our code or products without your consent.

The Problem:

Let's say we have this ecommerce website called AmazinKart. AmazinKart gets its product details from a third party json API which contains the product prices and other details. You as a developer of AmazinKart needs to create a module which will :

1. Retrieve the product details by calling the third party json API

   url: https://api.jsonbin.io/b/5d31a1c4536bb970455172ca/latest

2. Convert the prices to INR if the price is not in INR using exchangeratesapi.io

   url: https://api.exchangeratesapi.io/latest

3. Save the json file (named output.json) into the target folder.

But what's the point of having an ecommerce site without any discounts right?! So let's add some promotions.

Unsurprisingly, running promotion is a complex game and our geeky product managers wants multiple sets of them to be deployed simultaneously in production but will run only one of them at a time.

Promotion Set A:

1. There will be a 7% discount on the price if the origin of the products is Africa
2. There will be a discount of 4% if the product rating is equal to 2 and 8 % if the product rating is below 2.
3. There will be a flat discount of Rs 100 on the products in these categories: "electronics","furnishing" for items costing Rs 500 and above.

Promotion Set B:

1. There will be a 12% discount on the prices if the inventory is more than 20.
2. There will be a discount of 7% if the product arrival status is new.

Common Rules:

1. There can only be one discount applied at a time for each Promotion Set.
2. You have to apply the discount which provides the highest discount to the customer
3. There will be a default discount of 2% if the price of the item exceeds Rs 1000 and no other discount was applied.

Running the program:

      To run Promotion Set A:

            java target/amazinkart-1.0.0.jar promotionSetA

      To run Promotion Set B:

            java target/amazinkart-1.0.0.jar promotionSetB

Running the above program should retrieve the product details from the API, convert the prices to INR if required, run the discount rules and then create a json file with a json node called discount like below. Please note that this is just an example - the below price and discount amount may not be correct.

```
[
 {
   "category": "toys",
   "inventory": 10,
   "rating": 2.8,
   "currency": "INR",
   "price": 2000.50,
   "origin": "Asia",
   "product": "remote control car",
   "discount": {
     "amount": 300.5,
     "discountTag": "get 5% off"
   }
 },
 {
   "category": "electronics",
   "inventory": 10,
   "rating": 2.8,
   "currency": "INR",
   "price": 4500,
   "origin": "Asia",
   "product": "mobile",
   "discount": {
     "amount":  100.5,
     "discountTag": "get Rs 100 off"
   }
 }
.....
.........]
```

FAQs:

- **Do I need to convert the prices to INR?**

All price should be in INR.

- **What format is the price and discount attribute?**

  All price related attributes should be in double.

- **Do I need to add a discount node to the output if no discounts were applicable?**

  No. It is not required to add a discount node if no discounts were applicable

- **I am not able to access the API urls, now what?**

  If you are not able to access the urls via code, please double check in the browser first. If it is not working in the browser as well, please contact us.