

## **The Problem:**

Let's say we have this ecommerce website called AmaznCart. AmaznCart has a wide range of products which contains the product prices and other details. You as a developer of AmaznCart needs to create a module which will :

1. Create CRUD API for product.
2. In the GET product API Convert the prices to INR if the price is not in INR using [exchangeratesapi.io](https://api.exchangeratesapi.io/latest) . url: <https://api.exchangeratesapi.io/latest>
3. Use any database to store the data in DB

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 6% discount on the price if the origin of the products is UAE
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.

### Calling the API:

#### Create Product:

*POST /product*

#### Update Product:

*POST /product/{product\_id}*

#### Delete Product:

*DELETE /product/{product\_id}*

#### GET Product:

To run Promotion Set A:

*GET /product?promotion=SetA*

To run Promotion Set B:

*GET /product?promotion=SetB*

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 send in response 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": 2000.5,
"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"
  }
}
.....
.....
]
```