

## QUESTION 1

Consider the following design/code problems, if you decide to present code blocks as your answer, write them in Golang :

a. You are tasked to create a microservice to process users data and user orders data. Both of these data is obtained through **endpoints, not database** access. One of the important steps of the data processing is to **match each user with the user orders data**. Assume that both data is already in-memory in the form of lists and **kept in variables : users and user\_orders**. How do you achieve the matching step?

b. You are tasked to create a brand new microservice for user domain (does anything that has to do with users data). The obvious task of the microservice is to save a newly registered user to the database. However, the product owner comes to you with the following additional requirements :

- After the user is successfully registered, send email to the marketing department, to notify them of a new user
- After the user is successfully registered, send a welcome email to the user

Assume that the related functions/methods already exist, and you just have to execute it. How do you achieve these requirements?

If, say, the project manager comes to you in the future with new tasks relating to successful user registration, how do you add these tasks to the list of execution? (assume that the functions/methods already exist). Let's say, as it goes, there are about 50-ish related tasks that needs to be done right after the user has successfully registered. You are free to propose a new approach/design. Please explain your approach.

## QUESTION 2

Please answer the following questions using Go Programming Language and Postgres Database.

- a. Using Go programming language, Create simple **console application** to read data from file **raw-data-2a.json** and print out the data in JSON Format. We expect the output will be the same as file **expected-result-question-2a.json**.
- b. Please Refer to Table **SAMPLE DATA, SAMPLE JSON, AND SAMPLE .env**. Using Go programming language, Create simple **console application** to get data from database and print out the data in JSON Format (See **SAMPLE JSON**) with this requirement:
  - i. If “**motor/yamaha**” string passed to the function, then print out data with type **motor** and brand **yamaha**.
  - ii. If “**mobil**” string parameter passed to the function, then print out all data with type **mobil**.
  - iii. We expect to run your application with single command **go run main.go**
  - iv. We expect when running your application, your application will do **migrations** and **seed sample data** to the database using credentials defined in the .env file.
  - v. We expect that when we run command **go run main.go multiple times**, we don't need to drop the table in the database or truncate the data in the table. For the database name please use **interview\_db**.
  - vi. We expect when running your application, your application will ask for a **string parameter**.

### SAMPLE DATA

no	type	brand	name
1	mobil	toyota	land cruiser
2	motor	suzuki	satria r
3	motor	honda	vario 125
4	mobil	toyota	kijang innova
5	mobil	daihatsu	xenia
6	motor	yamaha	mio
7	mobil	daihatsu	sigra
8	mobil	nissan	juke
9	motor	honda	beat
10	motor	yamaha	r15
11	mobil	daihatsu	ayla
12	motor	honda	cbr 150r
13	motor	suzuki	spin
14	mobil	nissan	march
15	mobil	nissan	livina
16	motor	yamaha	r25

17	mobil	toyota	avanza
18	motor	suzuki	satria f150

### SAMPLE JSON

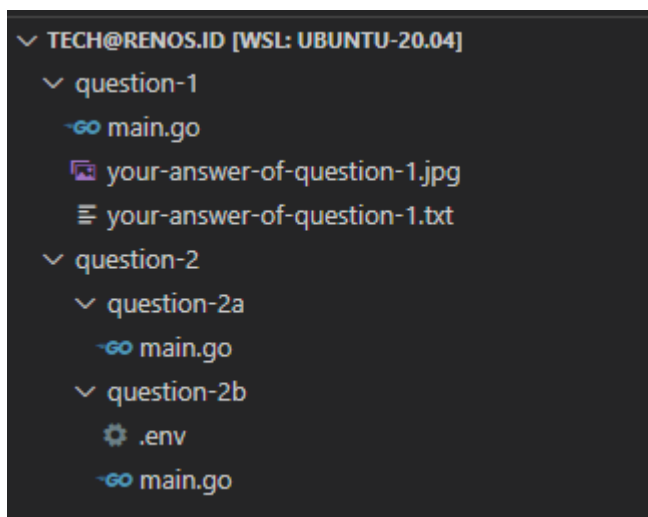
```
{
  "data": [
    {
      "name": "land cruiser",
      "type": "mobil",
      "brand": "toyota",
      "slug": "mobil/toyota/land-cruiser"
    },
    {
      "name": "satria f150",
      "type": "motor",
      "brand": "suzuki",
      "slug": "motor/suzuki/satria-f150"
    }
  ]
}
```

### SAMPLE .env

```
DB_CONNECTION=pgsql
DB_HOST=127.0.0.1
DB_DATABASE=interview_db
DB_PORT=5432
DB_USERNAME=postgres
DB_PASSWORD=postgres
```

### Submission Guidelines.

1. Attach your code/answer submission as zip/archive. Use your email address as the filename.
2. **Your solution must build+run on Linux. If you don't have access to a Linux dev machine, you can easily set one up using Docker.**
3. For question 1, you can explain your answer in text, image, or even you can do some code if you want.



4. We expect when we extract the zip/archive you sent to us, We Will see the same folder structure as the image above.