Instructions :

- There are 3 questions. Solve any one problem **based on your area of expertise**.
- Time for each problem statement is provided besides the problem.
- Push the code to GitHub and share it with us once you have completed it.
- Submit the project even if it's incomplete. We will evaluate based on your code.
- Good Luck!!

1 . Simple Web Application (For full stack developer)

(Push the code after each level to Github and share it.)

Level 1 : **(3 Hours)**

Product Management Screen with the below requirements :
- Host a web server in any cloud service. (AWS preferred)
- Create Database with the given products dataset.
  dataset : https://fm-interview.s3.ap-south-1.amazonaws.com/test.csv
- Create User table and add three users - user 1, user 2, user 3
- Create Login page .
- In Homepage each Sample User Should be able to view their products and perform CRUD operations on it (using AJAX).

Nice to have

- Filter and Search Features (Avoid using library)
- Download (PDF/CSV) feature

Expectations

- Clean, standard REST APIs
- Well defined code. You can use any technology stack and database of your choice

Level 2 : **(2 Hours)**

Order Management Screen with the below requirements :
- Show product orders with the given product orders dataset.
  dataset : https://fm-interview.s3.ap-south-1.amazonaws.com/test1.csv
- Based on Delivery Distance, Transportation and Order Type, show the '**delivery time'** for each order.
  - If Distance greater than 2000km,

Transportation mode : Air or Land

- If Distance less than 1000km,
  Transportation mode : Only Land

(**Hint :** Air - 10min/10km, Land - 2hr/10km)

- If Order Type is,
  Swatch - Additional 1 day , Sample - Additional 3 days , Bulk - Additional 15 days

Level 3 : **(6 Hours)**

From given product (fabric) images, auto-pick all the properties of the product.
dataset : https://fm-interview.s3.ap-south-1.amazonaws.com/images.zip and show it in products page.

Hint : fabric properties like color, composition, weave, pattern etc (use your imagination).

2 . Simple Image Processing **(3 Hours)**

Create a project to auto-extrapolate the given images. Each image is a pattern from which the rest of the pattern should be auto-generated.

- https://fm-interview.s3.ap-south-1.amazonaws.com/pattern1.png
- https://fm-interview.s3.ap-south-1.amazonaws.com/pattern2.png
- https://fm-interview.s3.ap-south-1.amazonaws.com/pattern3.png
- https://fm-interview.s3.ap-south-1.amazonaws.com/pattern4.png
- https://fm-interview.s3.ap-south-1.amazonaws.com/pattern5.png

Sample - https://fm-interview.s3.ap-south-1.amazonaws.com/sample.png

Push the code and images to Github and share it. We will be testing the project with a different set of images.

3 . ML/AI Problem Statement **(1 Day)**

Using given dataset of Chest X-ray images, Create a model to predict and label the presence of 14 observations (No finding, Enlarged Cardiom, Cardiomegaly, Lung Lesion, Lung opacity, Edema, Consolidation, Pneumonia, Atelectasis, Pneumothorax, Pleural Effusion, Pleural Other, Fracture, Support Devices) and for each image, label each observation as positive , negative or uncertain.

Dataset : dataset.zip