

TASK 1: (Backend)

Create a full stack online metro ticket booking system. A user can book tickets through the user interface between two stations and the generated id number can be used as a ticket. The generated id will have an 18 hour expiry time after which it can not be used. And the generated id can be used only twice, once while entering the station and again while exiting the station after which it cannot be used again. And if the id has not been used for entering into the station, it cannot be used while exiting the station.

- You can use frontend framework of your choice but the backend should be in SpringBoot(Java)
- You can use the database of your choice for storing the information of the generated tickets
- A json file containing information about the stations and the ticket price should be used

You can use Paytm Metro ticket booking system for reference. Eg of the json file

```
{
  "stations":{
    "A":{
      "startStation":true,
      "price":0
    },
    "B":{
      "price":5
    },
    "C":{
      "price":15
    },
    "D":{
      "lastStation":true,
      "price":50
    }
  }
}
```

The Price of ticket between station “B” and “C” will be $|15-5| = 10$. Create a list of twenty stations similar to this. And every station is reachable from every station. The UI should be simple, no login or any kind of authorization is required. On clicking the buy ticket button, the backend will generate a ticket id which will act as ticket and its id can be stored in the database and will act as primary key for the record.

TASK 2: (Backend)

Write a script to get a list of your last 200 emails(Gmail) and display the list of sender and subject of the mail. You are free to use the Gmail APIs.

TASK 3: (Frontend)

Create an expandable table in Angular which displays data fetched from a json file. Each row can be expanded to display multiple children rows below that row. And the table should support multiselection of rows. On selecting the row's background color should change which should stay the same until it is clicked again

```
{
  "rows": [
    {
      "id": "1",
      "text1": "text 1.1",
      "text2": "text 1.2",
      "children": []
    },
    {
      "id": "2",
      "text1": "text 2.1",
      "text2": "text 2.2",
      "children": [
        {
          "id": "2.1",
          "text1": "text 2.1.1",
          "text2": "text 2.1.2",
          "children": [
            {
              "id": "2.1.1",
              "text1": "text 2.1.1.1",
              "text2": "text 2.1.1.2",
              "children": []
            }
          ]
        }
      ]
    },
    {
      "id": "4",
      "text1": "text 4.1",
      "text2": "text 4.2",
      "children": []
    }
  ]
}
```