

Solve *any 2* among the 3.

Total Time Limit: 2hrs

1. Design an elevator system for a building

- It has 3 elevators
- Each floor has an up and down button for each elevator.
- A user can choose to press the up or down button for any elevator on any floor. The elevator should come to that floor and its door should open if it is moving in the same direction as the user.
- A user once in the elevator can press the button corresponding to the floor he or she intends to go to. The elevator should go to the desired floor and its doors should open.

2. Candies

Alice is a kindergarten teacher. She wants to give some candies to the children in her class. All the children sit in a line and each of them has a rating score according to his or her performance in the class. Alice wants to give at least 1 candy to each child. If two children sit next to each other, then the one with the higher rating must get more candies. Alice wants to minimize the total number of candies she must buy.

For example, assume her students' ratings are [4, 6, 4, 5, 6, 2]. She gives the students candy in the following minimal amounts: [1, 2, 1, 2, 3, 1]. She must buy a minimum of 10 candies.

Function Description:

Complete the candies function in the editor below. It must return the minimum number of candies Alice must buy.

candies has the following parameter(s):

1. n: an integer, the number of children in the class
2. arr: an array of integers representing the ratings of each student

3. Bond portfolio management

This application will serve users to buy and sell the bonds, it will be used by three users:

- Administrator
- Sales person
- Customer

Administrator can Add/Delete/update the bond like pricing, bond details etc

Salesperson can sell the bond to customer.

Customers can buy any bond and sell their own bond.

Write API's for below use cases:

1. Administrator can add bond with following details:

- > Bond Name
- > Bond Description
- > Pricing
- > Average return in %
- > current profit prediction in %

2. Administrator can delete the bond but be sure it should not be held by any customer.

3. Administrator can see all customers for a specific bond or all bonds for a customer.

4. The Administrator can track the salespersons overall sales.

5. Salesperson can sell the bond to customer.

6. Salesperson sells record should be maintained like customerInfo, Date, bondInfo

7. Customer can see all his bond in his portfolio (BondInfo, SalesPersonInfo (If not purchased by own))

8. Customers should buy new bond and sell existing bond.

9. Administrator has privileges to download the sales records on daily/Monthly basis, which would have approx 2-3 GB of data.

Write a logic which helps user to get the data from database.