

First Challenge:

Implement a Lottery Game

A system that our users can use their chances to win prizes. We have 5 prizes A, B, C, D, and E with different weights 0.1, 0.3, 0.2, 0.15, and 0.25 respectively. Also, we have registered users in our Redis database who are allowed to participate in the lottery only 3 times a day. Suppose the lottery process is a heavy process and takes about 5 seconds.

We want to implement an asynchronous service that accepts the incoming HTTP requests from the clients and performs the lottery, at last, it gives the users the prize as a response.

Request details:

POST *api/v1/lottery*

BODY:

```
{
  UUID: "f1bc8f04-0500-11ee-be56-0242ac120002" // UUID of the user
}
```

Implementation criteria:

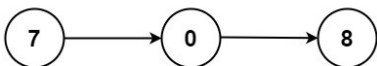
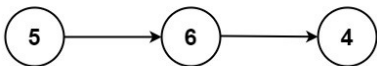
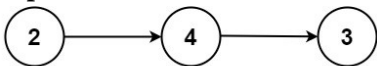
- 1.Layer and directory structure according to the standard of the language you decided to use
- 2.Use docker compose to run all of the services
- 3.Writing unit tests is a plus

Second Challenge:

You are given two non-empty linked lists representing two non-negative integers. The digits are stored in reverse order, and each of their nodes contains a single digit. Add the two numbers and return the sum as a linked list.

You may assume the two numbers do not contain any leading zero, except the number 0 itself.

Example 1:



Input: $l1 = [2, 4, 3]$, $l2 = [5, 6, 4]$

Output: $[7, 0, 8]$

Explanation: $342 + 465 = 807$.

Example 2:

Input: $l1 = [0]$, $l2 = [0]$

Output: $[0]$

Example 3:

Input: $l1 = [9, 9, 9, 9, 9, 9, 9]$, $l2 = [9, 9, 9, 9]$

Output: $[8, 9, 9, 9, 9, 0, 0, 0, 1]$

Constraints:

- The number of nodes in each linked list is in the range $[1, 100]$
- $0 \leq \text{node.value} \leq 9$
- It is guaranteed that the list represents a number that does not have leading zeros.