

# PROGRAMMING ASSIGNMENT

## 1. Unique Number and Frequency

### Objective:

Given List  $L$  contains  $N$  integers . You have to find the unique integer in a sorted order  $L_1$  and frequency of the integers  $L_2$ .

### Input Format:

First line contains a List with  $N$  integers

### Constraints:

$0 < N \leq 100$

### Output Format:

Print the unique integer in a sorted order  $L_1$ .

Print the frequency of integers  $L_2$ .

### Sample Input:

[1, 2, 3, 2, 4, 4, 4, 3, 5, 1]

### Sample Output:

[1, 2, 3, 4, 5]

[2, 2, 2, 3, 1]

### Explanation:

$N = [1, 2, 3, 2, 4, 4, 4, 3, 5, 1]$

Here 1 occurs 2 times, 2 occurs 2 times, 3 occurs 2 times , similarly for all.

Eliminate the duplicate integers and store the no. of occurrence of each integer

$L_1 = [1, 2, 3, 4, 5]$

$L_2 = [2, 2, 2, 3, 1]$

## 2. Second Largest Prime Number

### Objective:

Given a list L, find the second largest prime number of the list

### Input Format:

First line contains a List with N integers

### Constraints:

$$0 < N \leq 10^2$$

### Output Format:

Print the second largest prime number

### Sample Input:

[3, 5, 7, 17, 11, 4, 18, 19]

### Sample Output:

17

### Explanation:

L= [3, 5, 7, 17, 11, 4, 18, 19]

Prime number=[3, 5, 7, 11, 17, 19]

Largest prime number is 19

Second largest prime number is 17

### 3. Square of Keys

**Objective:**

Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

**Input Format:**

First line contains a integer N.

**Constraints:**

$$0 < N \leq 10^2$$

**Output Format:**

Print the dictionary containing square values

**Sample Input:**

7

**Sample Output:**

{1:1, 2:4, 3:9, 4:16, 5:25, 6:36, 7:49}

**Explanation:**

$$N = 7$$

If key =1 and its value is  $1^2 = 1$

If key =2 and its value is  $2^2 = 4$

If key =3 and its value is  $3^2 = 9$