Experiment : 1.4

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Branch: CSE **Section/Group:** 21BCS-IOT-602B
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Subject Name: Advanced Programming LAB **Subject Code:** 21CSP-314

AIM:

Sorting and Searching: Implement the concept of Searching and Sorting techniques.

OBJECTIVE:

1: Given two arrays of integers, find which elements in the second array are missing from the first array.

2: Lauren has a chart of distinct projected prices for a house over the next several years. She must buy the house in one year and sell it in another, and she must do so at a loss. She wants to minimize her financial loss.

CODE:

Code 1:

```
import math
import os
import random
import re
import sys

def missingNumbers(arr, brr, values=[]):
    brr_1 = set(brr)
    for i in brr_1:
        a = arr.count(i)
        b = brr.count(i)
        if a < b:
            values.append(i)
    return values

if __name__ == 'main':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')
    n = int(input().strip())
    arr = list(map(int, input().rstrip().split()))
    m = int(input().strip())
    brr = list(map(int, input().rstrip().split()))
```

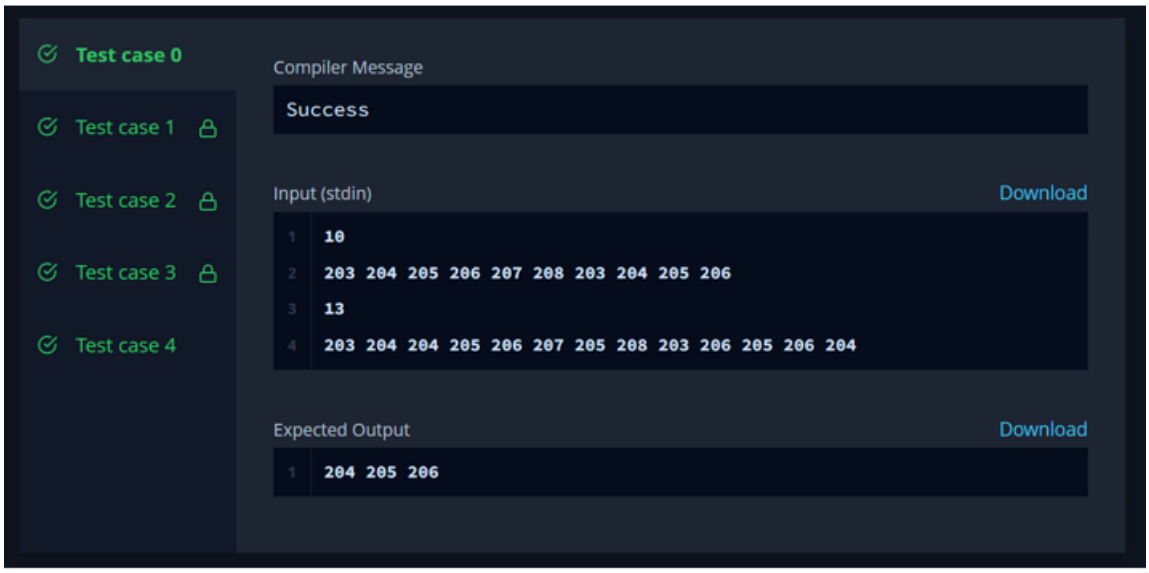
```
    result = missingNumbers(arr, brr)
    fptr.write(' '.join(map(str, result)))
    fptr.write('\n')

    fptr.close()
```

Code 2

```
import math
import os
import random
import re
import sys

def minimumLoss(price):
    r_index = sorted(range(len(price)), key=lambda x: price[x], reverse=True)
    min_loss = 10**16

    for i in range(len(r_index)-1):
        if r_index[i] < r_index[i+1]:
            index1 = r_index[i]
            index2 = r_index[i+1]
            loss = price[index1] - price[index2]
            min_loss = min(min_loss, loss)

    return min_loss

if __name__ == 'main':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')
    n = int(input().strip())
    price = list(map(int, input().rstrip().split()))
    result = minimumLoss(price)
    fptr.write(str(result) + '\n')
    fptr.close()
```

OUTPUT:

OUTPUT 1



OUTPUT 2

LEARNING OUTCOMES:

1. *Understood the concept of searching and sorting.*
2. *Understood the concept how to search and sort elements.*
3. *Learn about algorithm thinking*
4. *Learn about mathematical logic*