Question

You are given with plastic buckets of different sizes. Your mom said that there is no space to place all those buckets separately in your home. So your mom plans to place the buckets one inside another. Now you know the sizes of all the buckets and the unique id of each bucket. Design a suitable algorithm to know how many buckets can be placed one inside another. If no buckets can be placed, return -1.

Tags

Stack, Array

Input Description

First line consists of Number of Buckets.
Second line consists of sizes of all the buckets.

Output Description

Order of Buckets to be placed
Number of buckets not able to place

Solution

```
class Stack:
    def __init__(self):
        self.stack = []

    def push(self, data):
        self.stack.append(data)

    def pull(self):
        return self.stack[-1]

    def pop(self):
        return self.stack.pop()

    def isEmpty(self):
        if len(self.stack) == 0:
            return False
        return True

    def printStack(self):
        while self.isEmpty():
            print(self.stack.pop(), end = " ")
```

```
n = int(input())
sizes = [float(x) for x in input().split()]
ids = [int(x) for x in input().split()]
dict_ = {}
for i in range(n):
    dict_[sizes[i]] = ids[i]

buckets = sorted(dict_, reverse = True)
SOLUTION = list(dict_.values())
print(*SOLUTION)
print(len(ids) - len(SOLUTION))
```

Test Cases :

Test Case 1 :
Input
5
1 2 3 2 1
10 20 30 40 50
Output
30 40 50
2

Test Case 2 :
Input
8
5 1 9 3 5 7 3 5
23 43 12 56 32 67 89 45
Output
67 89 12 43 45
3

Test Case 3 :
Input
3
7 5 7
2 3 4
Output
3 4
1

Test Case 4 :
Input
10

22 33 44 55 66 11 55 45 66 44
9 8 7 6 5 4 3 2 1 12
Output
2 4 1 3 12 8 9
3

Test Case 5 :
Input
3
1 1 1
3 2 1
Output
1
2