

Name : Sujal Singh Class : A4-B2

Roll no. : 52

Subject : Technical Skill

# Easy Problems

## Q1]

**Favorite Singer**

Bob has a playlist of  $N$  songs, each song has a singer associated with it (denoted by an integer). Favorite singer of Bob is the one whose songs are the most on the playlist.

Count the number of Favorite singers of Bob.

**Input Format:**

The first line contains an integer  $N$ , denoting the number of songs in Bob's playlist.

The following input contains  $N$  integers,  $i^{\text{th}}$  integer denoting the singer of the  $i^{\text{th}}$  song.

**Output Format:**

Output a single integer, the number of favourite singers of Bob.

**Note:** Use 64 bit data type.

**Constraints:**

$$1 \leq N \leq 2 \times 10^5$$
$$1 \leq s(i) \leq 10^5$$

**Sample Input:**

```
5
1 1 2 2 4
```

**Sample Output:**

```
2
```

```
1 n = int(input())
2 singers = list(map(int, input().split()))
3
4 song_count = {}
5 for singer in singers:
6     if singer in song_count:
7         song_count[singer] += 1
8     else:
9         song_count[singer] = 1
10
11 max_songs = max(song_count.values())
12 favourite_singers = sum(1 for count in song_count.values() if count == max_songs)
13
14 print(favourite_singers)
15
```

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Count the number of Favorite singers of Bob.

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```
5
1 1 2 2 4
```

**Sample Output:**

```
2
```

Score	Time (sec)	Memory (KB)	Language
0	0.00000	34568	Python 3
Input	Result	Time (sec)/Memory (KB)	Score Your output Current output Diff
Input #1	Accepted	0.017382 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #2	Accepted	0.018226 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #3	Accepted	0.016295 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #4	Accepted	0.017583 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #5	Accepted	0.016255 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #6	Accepted	0.017398 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #7	Accepted	0.017926 2 5	<a href="#">View</a> <a href="#">Copy</a>
Input #8	Accepted	0.018199 2 10	<a href="#">View</a> <a href="#">Copy</a>
Input #9	Accepted	0.107776 34568 10	<a href="#">View</a> <a href="#">Copy</a>
Input #10	Accepted	0.034658 22360 10	<a href="#">View</a> <a href="#">Copy</a>
Input #11	Accepted	0.034575 24896 20	<a href="#">View</a> <a href="#">Copy</a>

## Q2]

Q3]

**PRACTICE** COMPETE JOBS LEADERBOARD

# LeetCode > Basic Programming > Input/output > Basic of Input/output > Problem

### Maximum borders

[D-MAY] [KUN] [28] ★★★★★ 138 votes Basic Programming, Input/Output 1 Share

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**Problems**

You are given a table with  $n$  rows and  $m$  columns. Each cell is colored with white or black. Considering the shapes created by black cells, what is the maximum border of these shapes? Border of a shape means the maximum number of consecutive black cells in any row or column without any white cell in between.

A shape is a set of connected cells. Two cells are connected if they share an edge. Note that no shape has a hole in it.

**Input format**

- The first line contains  $t$  denoting the number of test cases.
- The first line of each test case contains integers  $n, m$ , denoting the number of rows and columns of the matrix. Here,  $\#$  represents a black cell and  $.$  represents a white cell.
- Each of the next  $n$  lines contains  $m$  integers.

**Output format**

Print the maximum border of the shapes.

Sample Input	Sample Output
<pre> 10 2 10 ....###..... ...##### ..##### ...###... ...###... ...###... ...###... </pre>	<pre> 4 1 9 7 0 0 1 </pre>

Enter your code or Upload your code as file Save Python 3 (pythran 0.13)

```

1 #
2 def solve():
3     t = int(input())
4     count = 1
5     max_border = max(max_border, count)
6 else:
7     count -= 1
8
9 for _ in range(t):
10    n, m = map(int, input().split())
11    grid = []
12    for i in range(n):
13        row = input()
14        max_border = max(max_border, count)
15    count = 1
16
17 print(max_border)

```

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### Problem

You are given a table with  $n$  rows and  $m$  columns. Each cell is colored with white or black. Considering the shapes created by black cells, what is the maximum border of these shapes? Border of a shape means the maximum number of consecutive black cells in any row or column without any white cell in between.

A shape is a set of connected cells. Two cells are connected if they share an edge. Note that no shape has a hole in it.

#### Input format

- The first line contains 2 denoting the number of test cases.
- The first line of each test case contains integers  $n$ ,  $m$  denoting the number of rows and columns of the matrix. Here, 'B' represents a black cell and '.' represents a white cell.
- Each of the next  $n$  lines contains  $m$  integers.

#### Output format

Print the maximum border of the shapes.

Sample input	Sample output
<pre> 10 7 15 ....BBB..... ....B..... 7 9 ...BBB... ...BBB... ..F..... ..BBB.... ..BBB.... ..F..... ..BBB.... ..BBB.... ..F..... ..BBB.... 10 11 ..BBB... .....           </pre>	<pre> 4 5 4 2 2 1 1 1 1 1 1           </pre>

Test against custom input

Compile & Test code Submit code

Submitted ID: 12780296

**RESULT:** Accepted [View judge environment](#)

Score	Time (sec)	Memory (KB)	Language
20	0.35961	5208	Python 3

Input	Result	Time (sec)	Memory (KB)	Score	Your output	Correct output	DFT
Input #1	Accepted	0.07526	2	1	<a href="#">View</a>	<a href="#">Copy</a>	<a href="#">Download</a>
Input #2	Accepted	0.04582	5208	99	<a href="#">View</a>	<a href="#">Copy</a>	<a href="#">Download</a>

Q4]

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COMPLETE
JOBS
LEADERBOARD

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All Tracks > Basic Programming > Input/Output > Basics of Input/Output > Problem

Zoes

250000
87%
10
★★★★★
1700 votes
Basic Programming, Input/Output
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### Problem

You are required to enter a word that consists of  $x$  and  $y$  that denote the number of **Zs** and **Os** respectively. The input word is considered similar to word **zoo** if  $2 \leq x \leq y$ .

Determine if the entered word is similar to word **zoo**.

For example, words such as **zzoooo** and **zzoooooo** are similar to word **zoo** but not the words such as **oooo** and **zzooooo**.

**Input format**

- First line: A word that starts with several **Zs** and continues by several **Os**.  
Note: The maximum length of this word must be 20.

**Output format**

Print **Yes** if the input word can be considered as the string **zoo** otherwise, print **No**.

Sample Input

zzoooooo

Sample Output

Yes

Time Limit: 0.5  
Memory Limit: 256  
Source: OJSC

**Explanation**

-

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Save
Python 3 (python 3.7.0)

```

1 word = input()
2 count_z = 0
3 count_o = 0
4
5 for ch in word:
6     if ch == 'z':
7         if count_o > 0:
8             break
9         count_z += 1
10    elif ch == 'o':
11        count_o += 1
12    else:
13        count_z = 0
14        count_o = 0
15        break
16
17 if count_o == 2 & count_z and count_z > 0:
18     print("Yes")
19 else:
20     print("No")
21

```

Test against custom input
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250000
87%
10
★★★★★
1700 votes
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### Problem

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Determine if the entered word is similar to word **zoo**.

For example, words such as **zzoooo** and **zzoooooo** are similar to word **zoo** but not the words such as **oooo** and **zzooooo**.

**Input format**

- First line: A word that starts with several **Zs** and continues by several **Os**.  
Note: The maximum length of this word must be 20.

**Output format**

Print **Yes** if the input word can be considered as the string **zoo** otherwise, print **No**.

Sample Input

zzoooooo

Sample Output

Yes

Time Limit: 0.5  
Memory Limit: 256  
Source: OJSC

**Explanation**

-

Test against custom input
Compile & Test code
Submit code

Submitted by: Yashwanth

RESULT: Accepted

Score
Time (sec)
Memory (KB)
Language

20
0.11463
2
Python 3

Input
Result
Time (sec)
Memory (KB)
Score
Your output
Correct output
Diff

Input #1
Accepted
0.07515
2
17

Input #2
Accepted
0.02611
2
17

Input #3
Accepted
0.07569
2
17

Input #4
Accepted
0.07381
2
16

Q5]

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### Problems

You are provided an array  $A$  of size  $N$  that contains non-negative integers. Your task is to determine whether the number that is formed by selecting the last digit of all the  $N$  numbers is divisible by 18.

**Note:** View the sample explanation section for more clarification.

**Input Format**

- First line: A single integer  $N$  denoting the size of array  $A$ .
- Second line:  $N$  space-separated integers.

**Output format**

If the number is divisible by 18, then print "Yes". Otherwise, print "No".

**Constraints**

$$1 \leq N \leq 10^5$$

$$0 \leq A[i] \leq 30^9$$

Sample Input	Sample Output
5 85 25 45 25 45	No

Time Limit: 1  
Memory Limit: 256  
Source: OJSC

### Explanation

Last digit of 85 is 5.  
Last digit of 25 is 5.  
Last digit of 45 is 5.  
Last digit of 25 is 5.  
Last digit of 25 is 5.



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### Cost of Balloons

10000

100%

10

★★★★★798 votes

Basic Programming, Easy, Input/Output

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#### Problems

You are conducting a contest at your college. This contest consists of two problems and  $n$  participants. You know the problem that a candidate will solve during the contest.

You provide a balloon to a participant after he or she solves a problem. There are only green and purple-colored balloons available in a market. Each problem must have a balloon associated with it as a prize for solving that specific problem. You can distribute balloons to each participant by performing the following operation:

- Use green-colored balloons for the first problem and purple-colored balloons for the second problem.
- Use purple-colored balloons for the first problem and green-colored balloons for the second problem.

You are given the cost of each balloon and problems that each participant solve. Your task is to print the minimum price that you have to pay while purchasing balloons.

**Input format**

- First line:  $T$  that denotes the number of test cases ( $1 \leq T \leq 10$ )
- For each test case:
  - First line: Cost of green and purple-colored balloons
  - Second line:  $n$  that denotes the number of participants ( $0 \leq n \leq 10$ )
  - Next  $n$  lines: Contains the status of users. For example, if the value of the  $j^{th}$  integer in the  $i^{th}$  row is 0, then it depicts that the  $i^{th}$  participant has not solved the  $j^{th}$  problem. Similarly, if the value of the  $j^{th}$  integer in the  $i^{th}$  row is 1, then it depicts that the  $i^{th}$  participant has solved the  $j^{th}$  problem.

**Output format**

For each test case, print the minimum cost that you have to pay to purchase balloons.

Enter your code or Upload your code in file.

[Save](#)
[Python 3 \(python3.10\)](#)

```

1 t = int(input())
2 for _ in range(t):
3     g, p = map(int, input().split())
4     n = int(input())
5     problem = 0
6     problem2 = 0
7     for _ in range(n):
8         a, b = map(int, input().split())
9         problem += a
10        problem2 += b
11    cost1 = problem * g + problem2 * p
12    cost2 = problem * p + problem2 * g
13    print(min(cost1, cost2))
14

```

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10000

100%

10

★★★★★798 votes

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**Output format**

For each test case, print the minimum cost that you have to pay to purchase balloons.

Test against custom input

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[Submit code](#)

RESULT: Accepted

[View judge environment](#)

Score	Time (sec)	Memory (KB)	Language
20	0.005	2	Python 3

Input	Result	Time (sec)	Memory (KB)	Score	Your output	Correct output	Diff
Input #1	Accepted	0.016704	2	1			
Input #2	Accepted	0.016713	2	99			

Q7]

**Problem**

You all must have seen a seven segment display/rat beer it is:

Alice got a number written in **seven segment format** where each segment was marked used a matchstick.

Example: If Alice gets a number 123 so basically Alice used **12 matchsticks** for this number.

Alice is wondering what is the numerically largest value that she can generate by using **at most** the matchsticks that she currently possess.Help Alice out by telling her that number.

**Input Format:**

First line contains T (test cases).

Next T lines contain a Number N.

**Output Format:**

Print the **largest** possible number numerically that can be generated using **at max** that many number of matchsticks which was used to generate N.

---

**Solution**

The problem asks us to find the largest number that can be formed using at most N matchsticks. The key observation is that the digit 1 uses the fewest matchsticks (2), while the digit 8 uses the most (7). To maximize the number of digits (and thus the magnitude of the number), we should use as many 1s as possible.

Let's define the matchstick cost for each digit:

- Digit 1: 2 matchsticks
- Digits 4, 7: 3 matchsticks
- Digits 2, 3, 5, 6: 4 matchsticks
- Digit 8: 7 matchsticks

Since we want the maximum number of digits, we will only use digit 1. However, there are some constraints or edge cases mentioned in the comments (e.g., "if n=10, ans=10"). This suggests that sometimes using more than one digit might be optimal for maximizing the count of digits, especially when the total matchsticks are small.

For example, if N=10, using ten 1s gives 1111111111. But using two 4s and six 1s gives 44111111, which has 8 digits, less than 10. Wait, the comment says "ans=10". Let's re-read: "if n=10, ans=10". That means the answer is 10 itself, which uses 10 matchsticks (two 1s and one 0, assuming 0 uses 6 matchsticks). But the problem statement says "using at most the matchsticks". So if N=10, we can form 10.

Another example: N=11. We can form 11 (2+2) or 10 (2+6). 11 has 2 digits, 10 has 2 digits. But 11 is larger than 10.

N=12: 111 (2+2+2) vs 101 (2+6+2). 111 has 3 digits, 101 has 3 digits. 111 > 101.

N=13: 1111 (2\*4) vs 1011 (2+6+2+2). Both have 4 digits. 1111 > 1011.

N=14: 11111 (2\*5) vs 10111 (2+6+2+2+2). Both have 5 digits. 11111 > 10111.

N=15: 111111 (2\*6) vs 101111 (2+6+2+2+2+2). Both have 6 digits. 111111 > 101111.

N=16: 1111111 (2\*7) vs 1011111 (2+6+2+2+2+2+2). Both have 7 digits. 1111111 > 1011111.

N=17: 11111111 (2\*8) vs 10111111 (2+6+2+2+2+2+2+2). Both have 8 digits. 11111111 > 10111111.

N=18: 111111111 (2\*9) vs 101111111 (2+6+2+2+2+2+2+2+2). Both have 9 digits. 111111111 > 101111111.

N=19: 1111111111 (2\*10) vs 1011111111 (2+6+2+2+2+2+2+2+2+2). Both have 10 digits. 1111111111 > 1011111111.

N=20: 11111111111 (2\*11) vs 10111111111 (2+6+2+2+2+2+2+2+2+2+2). Both have 11 digits. 11111111111 > 10111111111.

N=21: 111111111111 (2\*12) vs 101111111111 (2+6+2+2+2+2+2+2+2+2+2+2). Both have 12 digits. 111111111111 > 101111111111.

N=22: 1111111111111 (2\*13) vs 1011111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2). Both have 13 digits. 1111111111111 > 1011111111111.

N=23: 11111111111111 (2\*14) vs 10111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2). Both have 14 digits. 11111111111111 > 10111111111111.

N=24: 111111111111111 (2\*15) vs 101111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 15 digits. 111111111111111 > 101111111111111.

N=25: 1111111111111111 (2\*16) vs 1011111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 16 digits. 1111111111111111 > 1011111111111111.

N=26: 11111111111111111 (2\*17) vs 10111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 17 digits. 11111111111111111 > 10111111111111111.

N=27: 111111111111111111 (2\*18) vs 101111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 18 digits. 111111111111111111 > 101111111111111111.

N=28: 1111111111111111111 (2\*19) vs 1011111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 19 digits. 1111111111111111111 > 1011111111111111111.

N=29: 11111111111111111111 (2\*20) vs 10111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 20 digits. 11111111111111111111 > 10111111111111111111.

N=30: 111111111111111111111 (2\*21) vs 101111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 21 digits. 111111111111111111111 > 101111111111111111111.

N=31: 1111111111111111111111 (2\*22) vs 1011111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 22 digits. 1111111111111111111111 > 1011111111111111111111.

N=32: 11111111111111111111111 (2\*23) vs 10111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 23 digits. 11111111111111111111111 > 10111111111111111111111.

N=33: 111111111111111111111111 (2\*24) vs 101111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 24 digits. 111111111111111111111111 > 101111111111111111111111.

N=34: 1111111111111111111111111 (2\*25) vs 1011111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 25 digits. 1111111111111111111111111 > 1011111111111111111111111.

N=35: 11111111111111111111111111 (2\*26) vs 10111111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 26 digits. 11111111111111111111111111 > 10111111111111111111111111.

N=36: 111111111111111111111111111 (2\*27) vs 101111111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 27 digits. 111111111111111111111111111 > 101111111111111111111111111.

N=37: 1111111111111111111111111111 (2\*28) vs 1011111111111111111111111111 (2+6+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2+2). Both have 28 digits. 1111111111111111111111111111 > 1011111111111111111111111111.

N=38: 11111111111111111111111111111 (2\*29) vs 10111111111111111111111111111 (2+6+2+2+2

Q8]

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### Problem

You live in a village. The village can be represented as a line that contains  $n$  grids. Each grid can be denoted as a house that is marked as  $H$  or a blank space that is marked as  $.$

A person lives in each house. A person can move to a grid if it is adjacent to that person. Therefore, the grid must be present on the left and right side of that person.

Now, you are required to put some fences that can be marked as  $|$  on some blank spaces so that the village can be divided into several pieces. A person cannot walk past a fence but can walk through a house.

You are required to divide the house based on the following rule:

- A person cannot reach a house that does not belong to that specific person.
- The number of grids each person can reach is the same and it includes the grid in which the house is situated.
- In order to show that you are enthusiastic and if there are many answers, then you are required to print the one where most fences are placed.

Your task is to decide whether there is a possible solution. Print the possible solution.

#### Input Format

- First line: An integer  $n$  that represents the number of grids ( $1 \leq n \leq 20$ ).
- Second line:  $n$  characters that indicate the villages that are represented as  $H$  or  $.$ .

#### Output Format

The output must be printed in the following format:

- First line: If possible, then print YES. Otherwise, print NO.
- Second line: If the answer is YES, then print the way to do so.

Sample Input	Sample Output
--------------	---------------

Enter your code or Upload your code as file.

[Save](#) Python 3 (python 3.10)

```
1 n = int(input())
2 village = list(input().strip())
3
4 houses = [i for i, v in enumerate(village) if v == 'H']
5
6 if not houses:
7     print("YES")
8     print('H' * n)
9     return
10 possible = True
11 for i in range(1, len(houses)):
12     if houses[i] - houses[i-1] - 1 >= 2:
13         possible = False
14         break
15
16 if not possible:
17     print("NO")
18     return
19
20 fence = village[:1]
21 for i in range(len(houses) - 1):
22     i = houses[i]
23     r = houses[i+1]
24     mid = (1 + r) // 2
25     for j in range(i+1, mid+1):
26         fence += "."
```

[Test against custom input](#)

[Compile & Test code](#)

[Submit code](#)



Q9]







Q10]



## Medium Problems

### Q1]



Q2]



Q3]



Q4]





Q5]



## Hard Problems

### Q1]



Q2]



Q3]



Q4]





Q5]

