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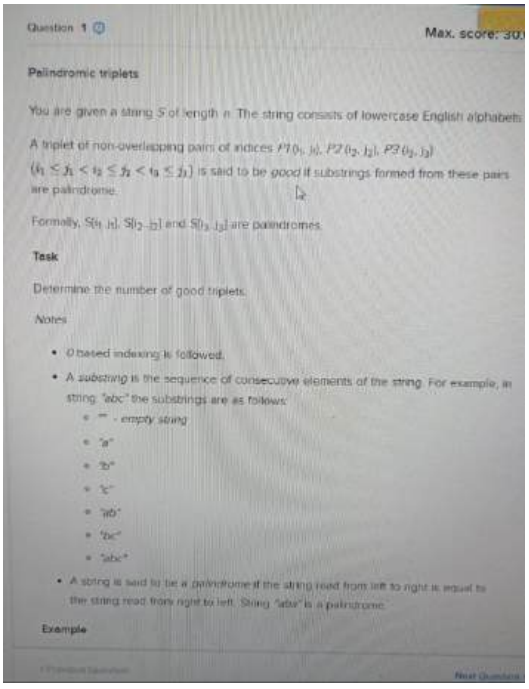
Google India

Coding Test Compilation 2025

Coding Test #1

Question 1.



Question 1

Max. score: 30

Palindromic triplets

You are given a string S of length n. The string consists of lowercase English alphabets.

A triplet of non-overlapping pairs of indices $P1(i_1, j_1)$, $P2(i_2, j_2)$, $P3(i_3, j_3)$ $(i_1 \leq j_1 < i_2 \leq j_2 < i_3 \leq j_3)$ is said to be *good* if substrings formed from these pairs are palindrome.

Formally, $S[i_1..j_1]$, $S[i_2..j_2]$ and $S[i_3..j_3]$ are palindromes.

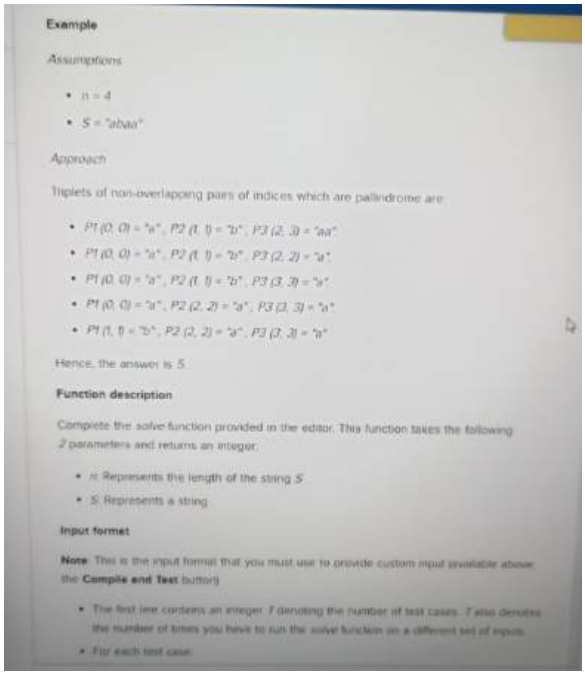
Task

Determine the number of good triplets.

Notes

- 0 based indexing is followed.
- A *substring* is the sequence of consecutive elements of the string. For example, in string, "abc" the substrings are as follows:
  - "" - *empty string*
  - "a"
  - "b"
  - "c"
  - "ab"
  - "bc"
  - "abc"
- A string is said to be a *palindrome* if the string read from left to right is equal to the string read from right to left. String "aba" is a palindrome.

Example



Example

Assumptions

- $n = 4$
- S = "abaa"

Approach

Triplets of non-overlapping pairs of indices which are palindrome are:

- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(2, 3)$ = "aa"
- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(2, 2)$ = "a"
- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(3, 3)$ = "a"
- $P1(0, 0)$ = "a", $P2(2, 2)$ = "a", $P3(3, 3)$ = "a"
- $P1(1, 1)$ = "b", $P2(2, 2)$ = "a", $P3(3, 3)$ = "a"

Hence, the answer is 5.

Function description

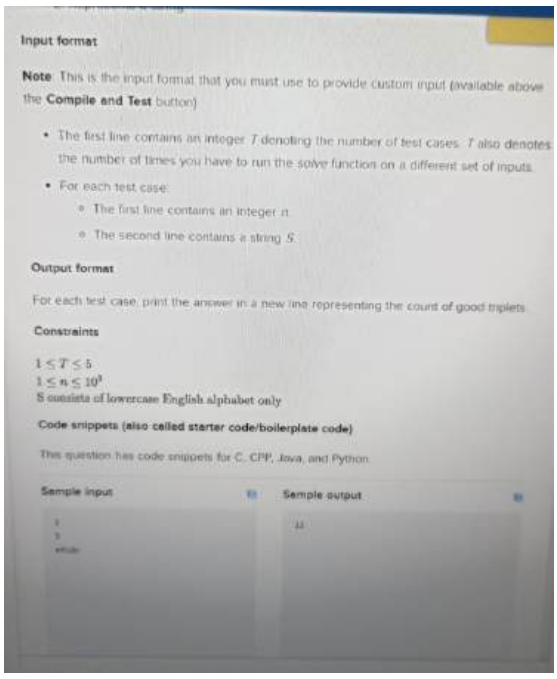
Complete the *solve* function provided in the editor. This function takes the following 2 parameters and returns an integer:

- n: Represents the length of the string S
- S: Represents a string

Input format

Note: This is the input format that you must use to provide custom input (available above the **Compile and Test** button)

- The first line contains an integer T denoting the number of test cases. T also denotes the number of times you have to run the *solve* function on a different set of inputs.
- For each test case:



Input format

Note: This is the input format that you must use to provide custom input (available above the **Compile and Test** button)

- The first line contains an integer T denoting the number of test cases. T also denotes the number of times you have to run the *solve* function on a different set of inputs.
- For each test case:
  - The first line contains an integer n.
  - The second line contains a string S.

Output format

For each test case, print the answer in a new line representing the count of good triplets.

Constraints

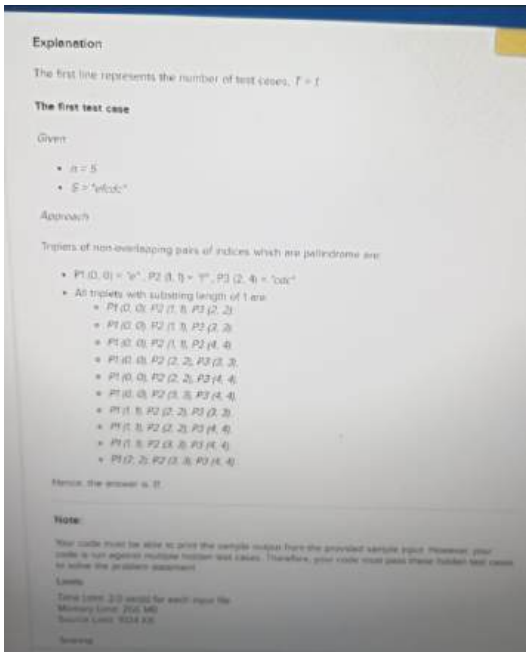
$1 \leq T \leq 5$
$1 \leq n \leq 10^3$
S consists of lowercase English alphabet only

Code snippets (also called starter code/boilerplate code)

This question has code snippets for C, CPP, Java, and Python.

Sample input

Sample output



Explanation

The first line represents the number of test cases, $T = 1$.

The first test case

Given

- $n = 5$
- S = "ababc"

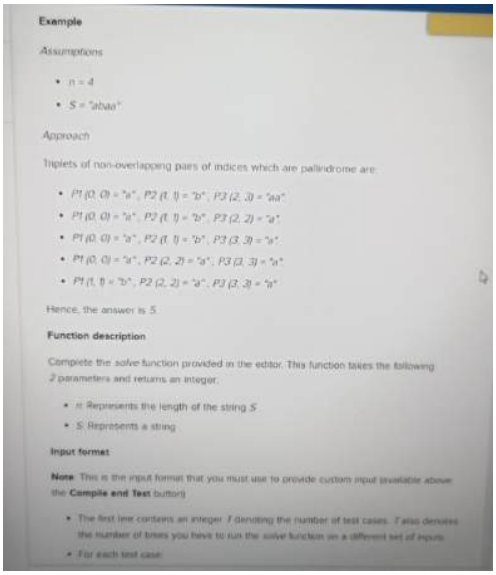
Approach

Triplets of non-overlapping pairs of indices which are palindrome are:

- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(2, 4)$ = "abc"
- All triplets with substring length of 1 are:
  - $P1(0, 0)$, $P2(1, 1)$, $P3(2, 2)$
  - $P1(0, 0)$, $P2(1, 1)$, $P3(2, 3)$
  - $P1(0, 0)$, $P2(1, 1)$, $P3(4, 4)$
  - $P1(0, 0)$, $P2(2, 2)$, $P3(3, 3)$
  - $P1(0, 0)$, $P2(2, 2)$, $P3(4, 4)$
  - $P1(0, 0)$, $P2(3, 3)$, $P3(4, 4)$
  - $P1(1, 1)$, $P2(2, 2)$, $P3(3, 3)$
  - $P1(1, 1)$, $P2(2, 2)$, $P3(4, 4)$
  - $P1(1, 1)$, $P2(3, 3)$, $P3(4, 4)$
  - $P1(2, 2)$, $P2(3, 3)$, $P3(4, 4)$

Hence, the answer is 11.

Note:



Example

Assumptions

- $n = 4$
- S = "abaa"

Approach

Triplets of non-overlapping pairs of indices which are palindrome are:

- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(2, 3)$ = "aa"
- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(2, 2)$ = "a"
- $P1(0, 0)$ = "a", $P2(1, 1)$ = "b", $P3(3, 3)$ = "a"
- $P1(0, 0)$ = "a", $P2(2, 2)$ = "a", $P3(3, 3)$ = "a"
- $P1(1, 1)$ = "b", $P2(2, 2)$ = "a", $P3(3, 3)$ = "a"

Hence, the answer is 5.

Function description

Complete the *solve* function provided in the editor. This function takes the following 2 parameters and returns an integer:

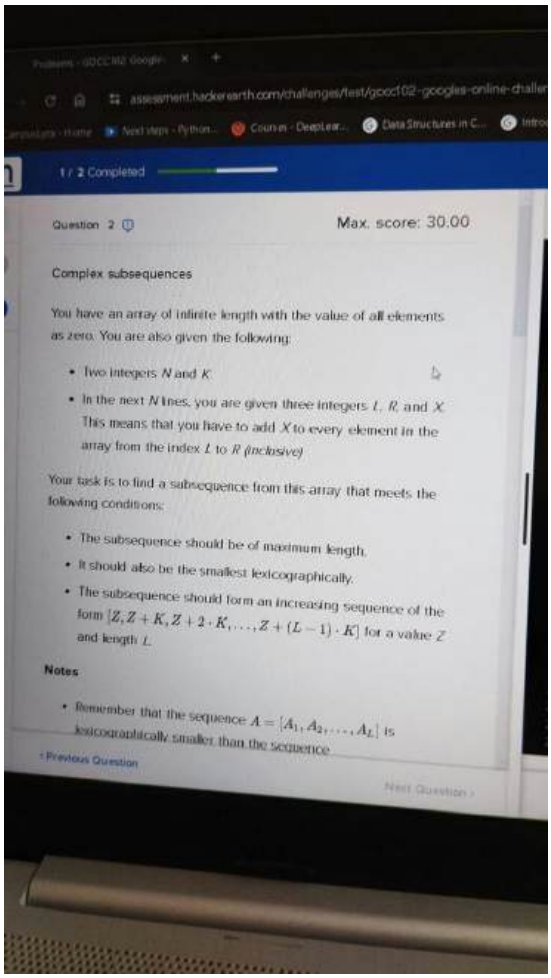
- n: Represents the length of the string S
- S: Represents a string

Input format

Note: This is the input format that you must use to provide custom input (available above the **Compile and Test** button)

- The first line contains an integer T denoting the number of test cases. T also denotes the number of times you have to run the *solve* function on a different set of inputs.
- For each test case:

Question 2.



1 / 2 Completed

Question 2 Max. score: 30.00

Complex subsequences

You have an array of infinite length with the value of all elements as zero. You are also given the following:

- Two integers N and K.
- In the next N lines, you are given three integers L, R, and X. This means that you have to add X to every element in the array from the index L to R (inclusive).

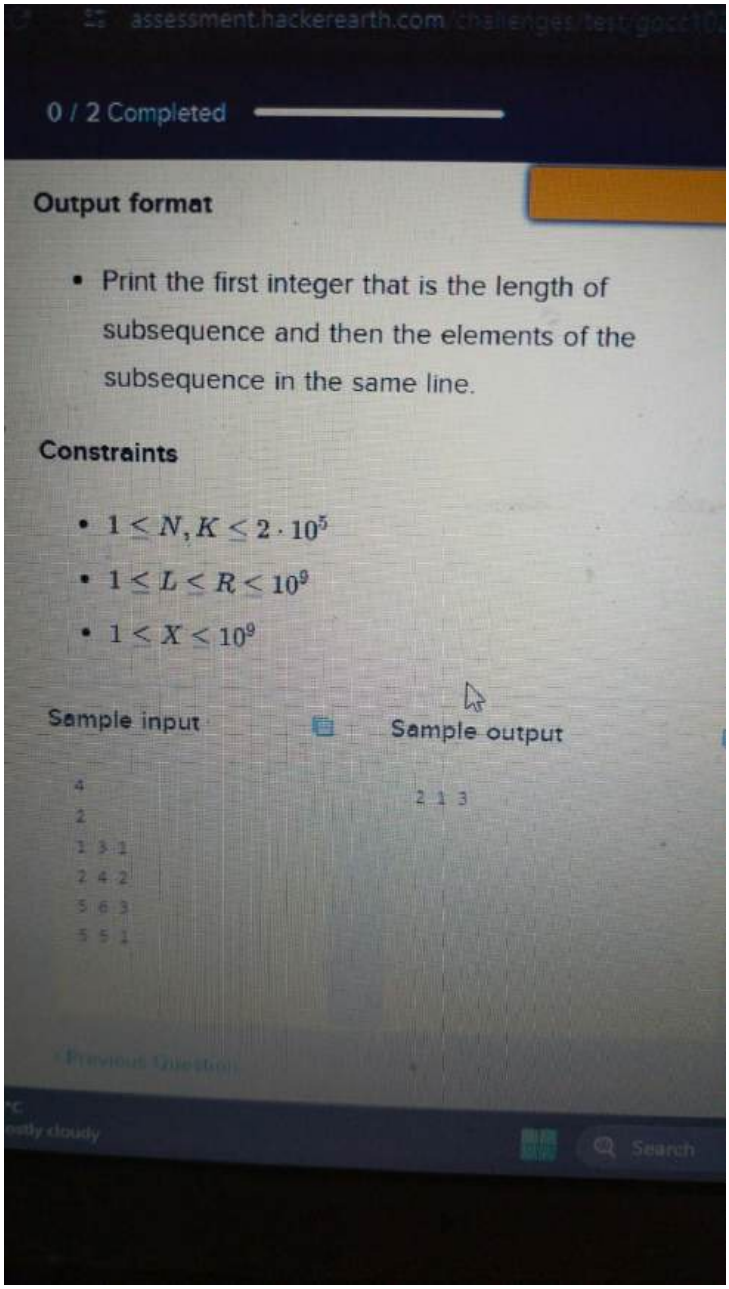
Your task is to find a subsequence from this array that meets the following conditions:

- The subsequence should be of maximum length.
- It should also be the smallest lexicographically.
- The subsequence should form an increasing sequence of the form $[Z, Z+K, Z+2 \cdot K, \ldots, Z+(L-1) \cdot K]$ for a value Z and length L.

Notes

- Remember that the sequence $A = [A_1, A_2, \ldots, A_L]$ is lexicographically smaller than the sequence

‹ Previous Question



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0 / 2 Completed

Output format

- Print the first integer that is the length of subsequence and then the elements of the subsequence in the same line.

Constraints

- $1 \leq N, K \leq 2 \cdot 10^5$
- $1 \leq L \leq R \leq 10^9$
- $1 \leq X \leq 10^9$

Sample input

```
4
2
1 3 1
2 4 2
5 6 3
5 5 1
```

Sample output

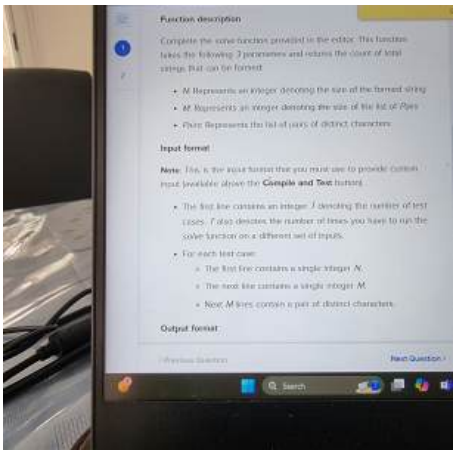
```
2 1 3
```

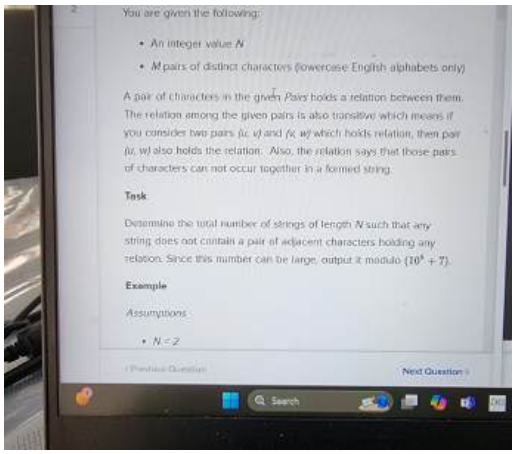
‹ Previous Question

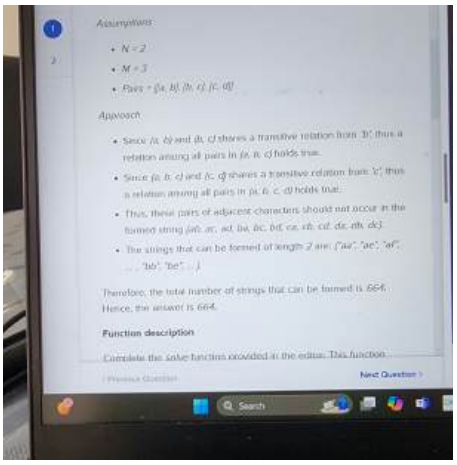
Search

Coding Test #2

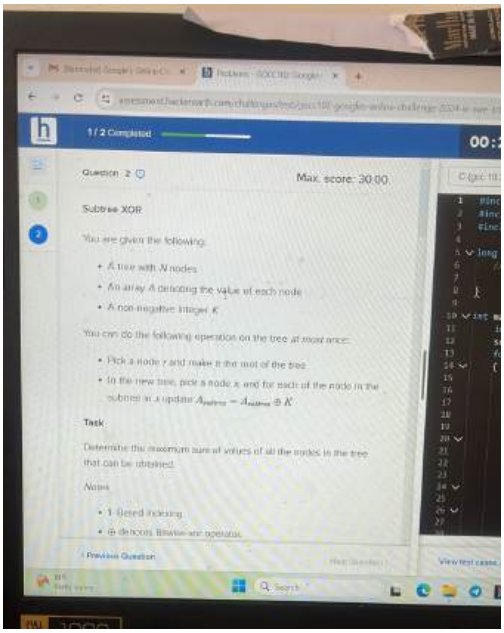
Question 1

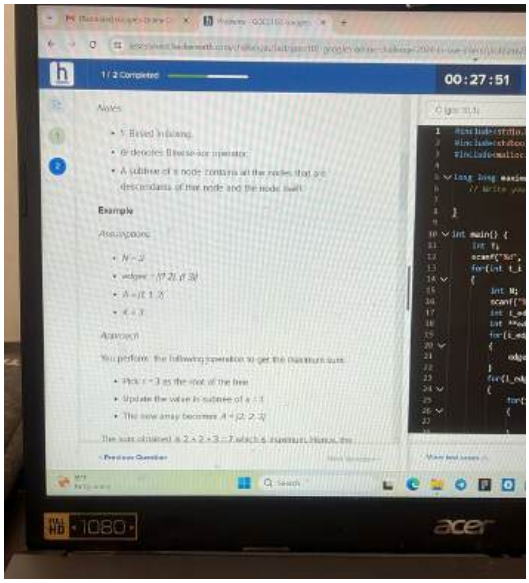




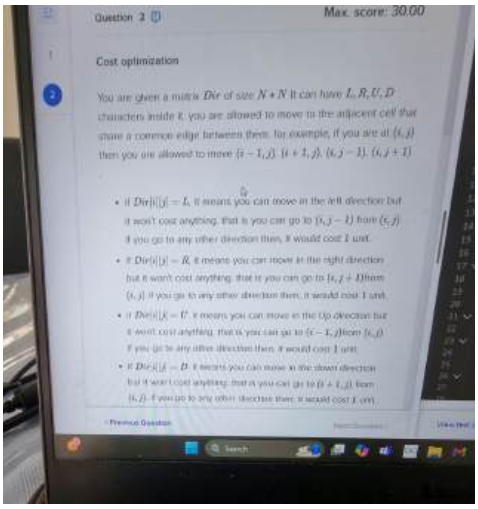


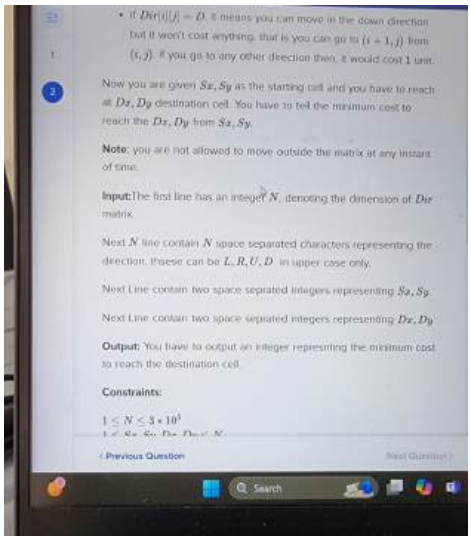
Question 2

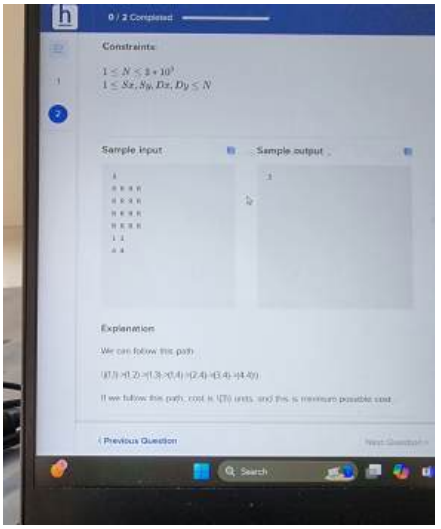




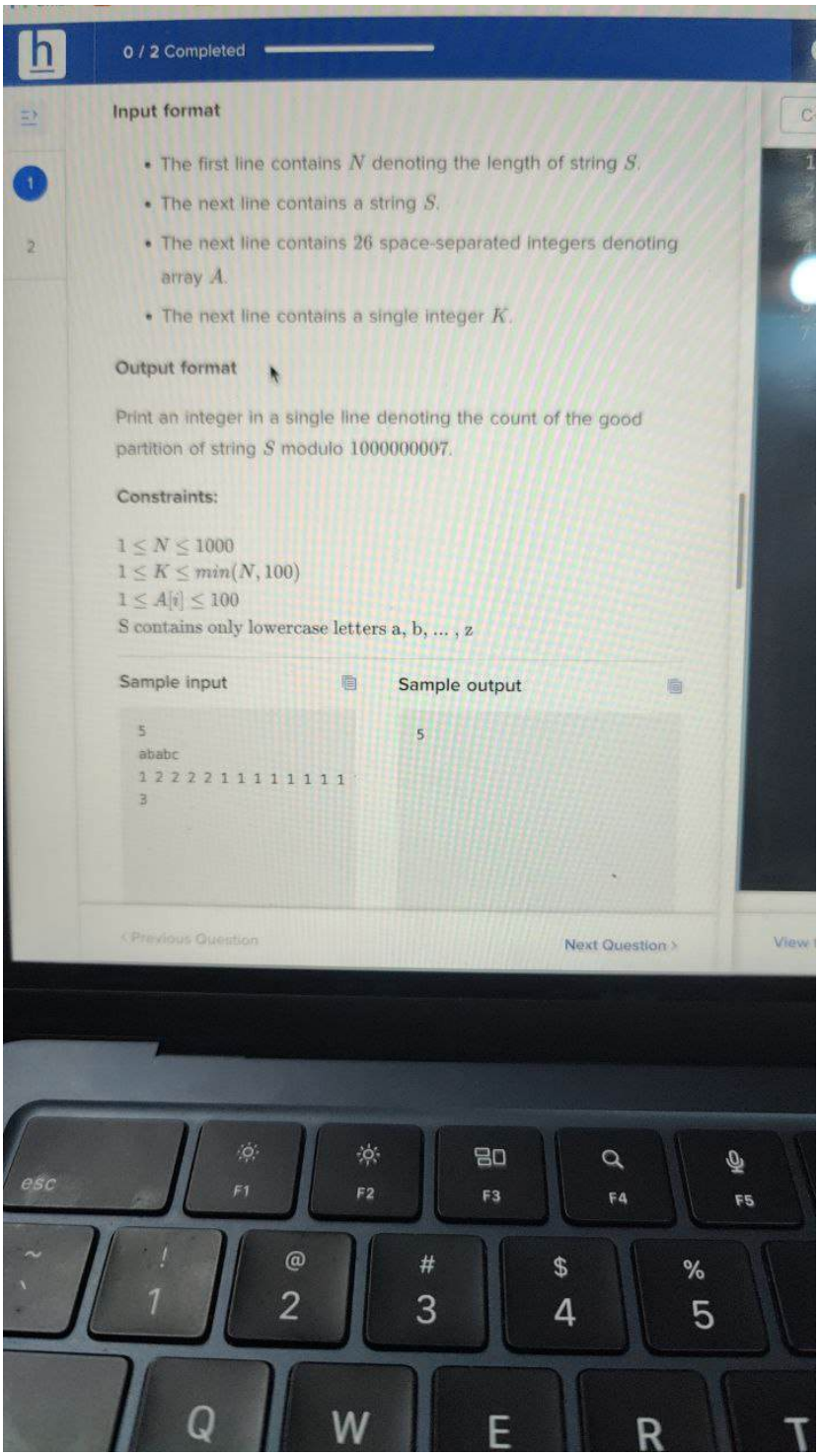
Coding Test #3

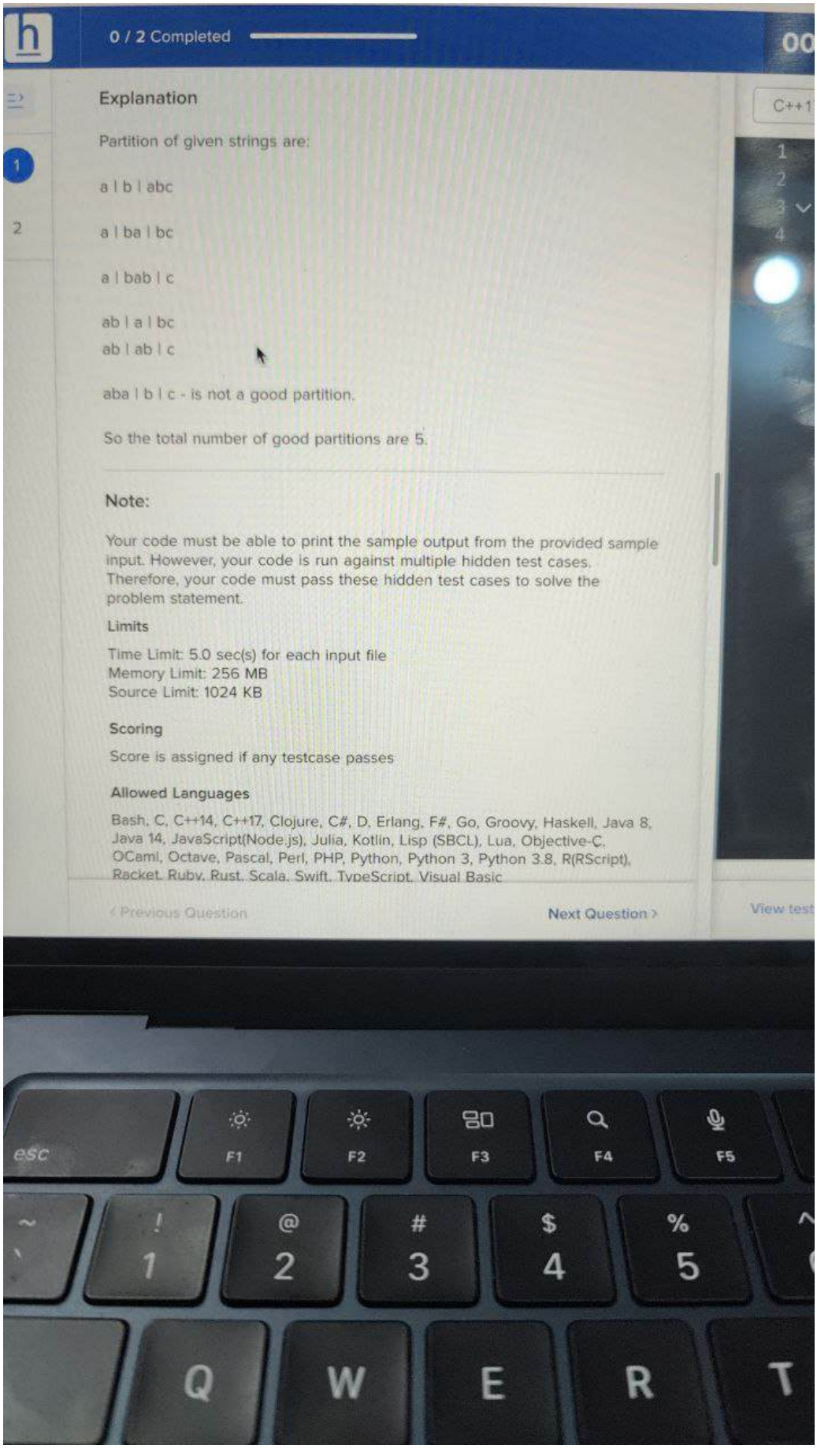






Coding Test #4




0 / 2 Completed
Explanation
Partition of given strings are:
a | b | abc
a | ba | bc
a | bab | c
ab | a | bc
ab | ab | c
aba | b | c - is not a good partition.
So the total number of good partitions are 5.
Note:
Your code must be able to print the sample output from the provided sample input. However, your code is run against multiple hidden test cases. Therefore, your code must pass these hidden test cases to solve the problem statement.
Limits
Time Limit: 5.0 sec(s) for each input file
Memory Limit: 256 MB
Source Limit: 1024 KB
Scoring
Score is assigned if any testcase passes
Allowed Languages
Bash, C, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java 8, Java 14, JavaScript(Node.js), Julia, Kotlin, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift, TypeScript, Visual Basic
Previous Question
Next Question
C++1
esc
F1
F2
F3
F4
F5

Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-202

0 / 2 Completed

1

2

Cost optimization

You are given a matrix Dir of size $N * N$ It can have L, R, U, D characters inside it. you are allowed to move to the adjacent cell that share a common edge between them, for example, if you are at (i, j) then you are allowed to move $(i-1, j)$, $(i+1, j)$, $(i, j-1)$, $(i, j+1)$

- if $Dir[i][j] = L$, it means you can move in the left direction but it won't cost anything. that is you can go to $(i, j-1)$ from (i, j). if you go to any other direction then, it would cost 1 unit.
- if $Dir[i][j] = R$, it means you can move in the right direction but it won't cost anything. that is you can go to $(i, j+1)$from (i, j) if you go to any other direction then, it would cost 1 unit.
- if $Dir[i][j] = U$. it means you can move in the Up direction but it won't cost anything. that is you can go to $(i-1, j)$from (i, j). if you go to any other direction then, it would cost 1 unit.
- if $Dir[i][j] = D$. it means you can move in the down direction but it won't cost anything. that is you can go to $(i+1, j)$ from (i, j). if you go to any other direction then, it would cost 1 unit.

Now you are given Sx, Sy as the starting cell and you have to reach at Dx, Dy destination cell. You have to tell the minimum cost to

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Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-i

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1

2

Now you are given Sx, Sy as the starting cell and you have to reach at Dx, Dy destination cell. You have to tell the minimum cost to reach the Dx, Dy from Sx, Sy.

Note: you are not allowed to move outside the matrix at any instant of time.

Input: The first line has an integer N, denoting the dimension of Dir matrix.

Next N line contain N space separated characters representing the direction. thsese can be L, R, U, D in upper case only.

Next Line contain two space seprated integers representing Sx, Sy.

Next Line contain two space seprated integers representing Dx, Dy.

Output: You have to output an integer represnting the minimum cost to reach the destination cell.

Constraints:

$1 \leq N \leq 3 * 10^3$
$1 \leq Sx, Sy, Dx, Dy \leq N$

‹ Previous Question

Next Question ›

View

Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-in

0 / 2 Completed

1

2

Sample input

```
4
R R R R
R R R R
R R R R
R R R R
1 1
4 4
```

Sample output

```
3
```

Explanation

We can follow this path-

\((1,1)->(1,2)->(1,3)->(1,4)->(2,4)->(3,4)->(4,4)\)

If we follow this path, cost is \(3\) units. and this is minimum possible cost .

Note:

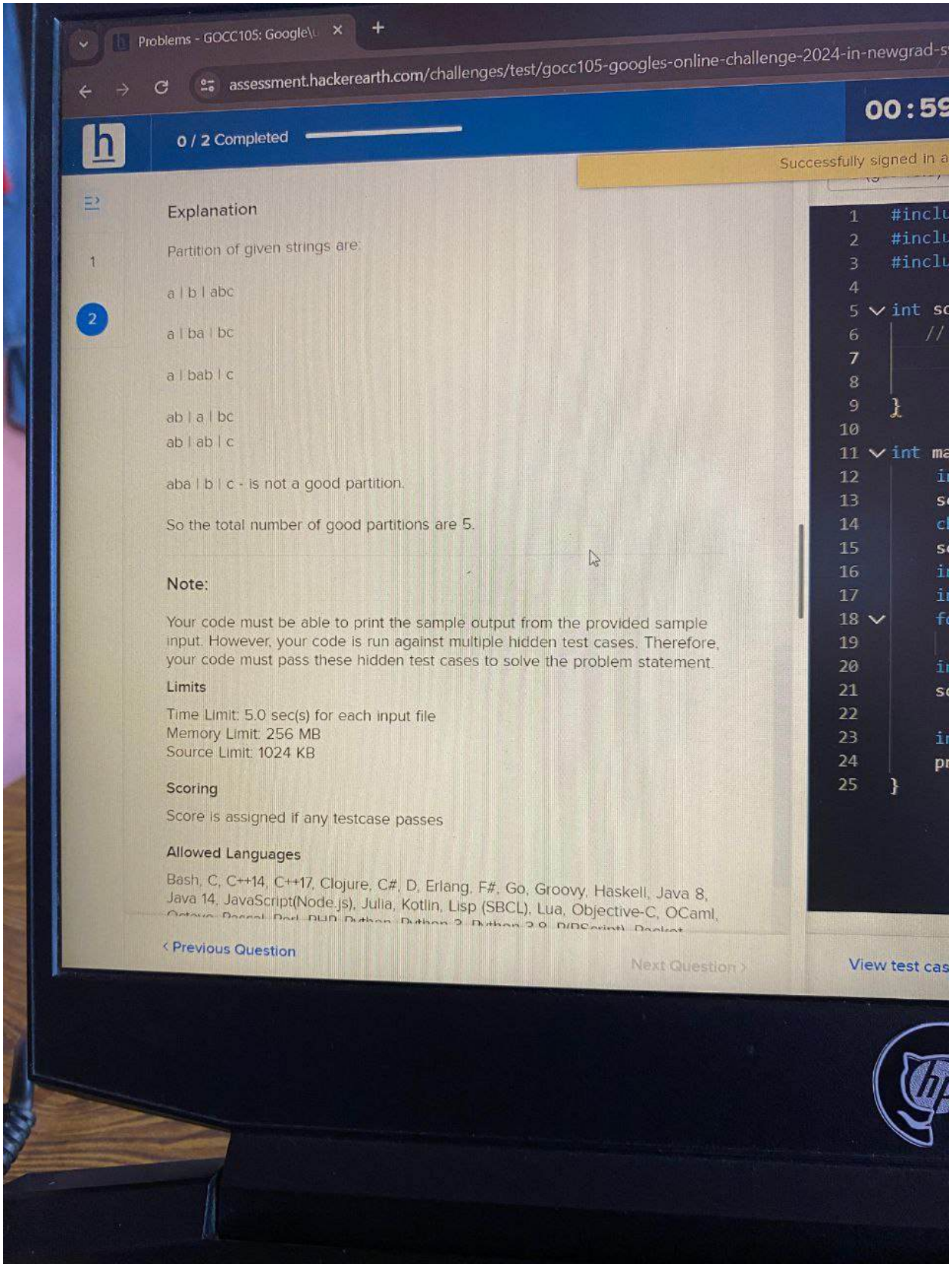
Your code must be able to print the sample output from the provided sample input. However, your code is run against multiple hidden test cases. Therefore, your code must pass these hidden test cases to solve the problem statement.

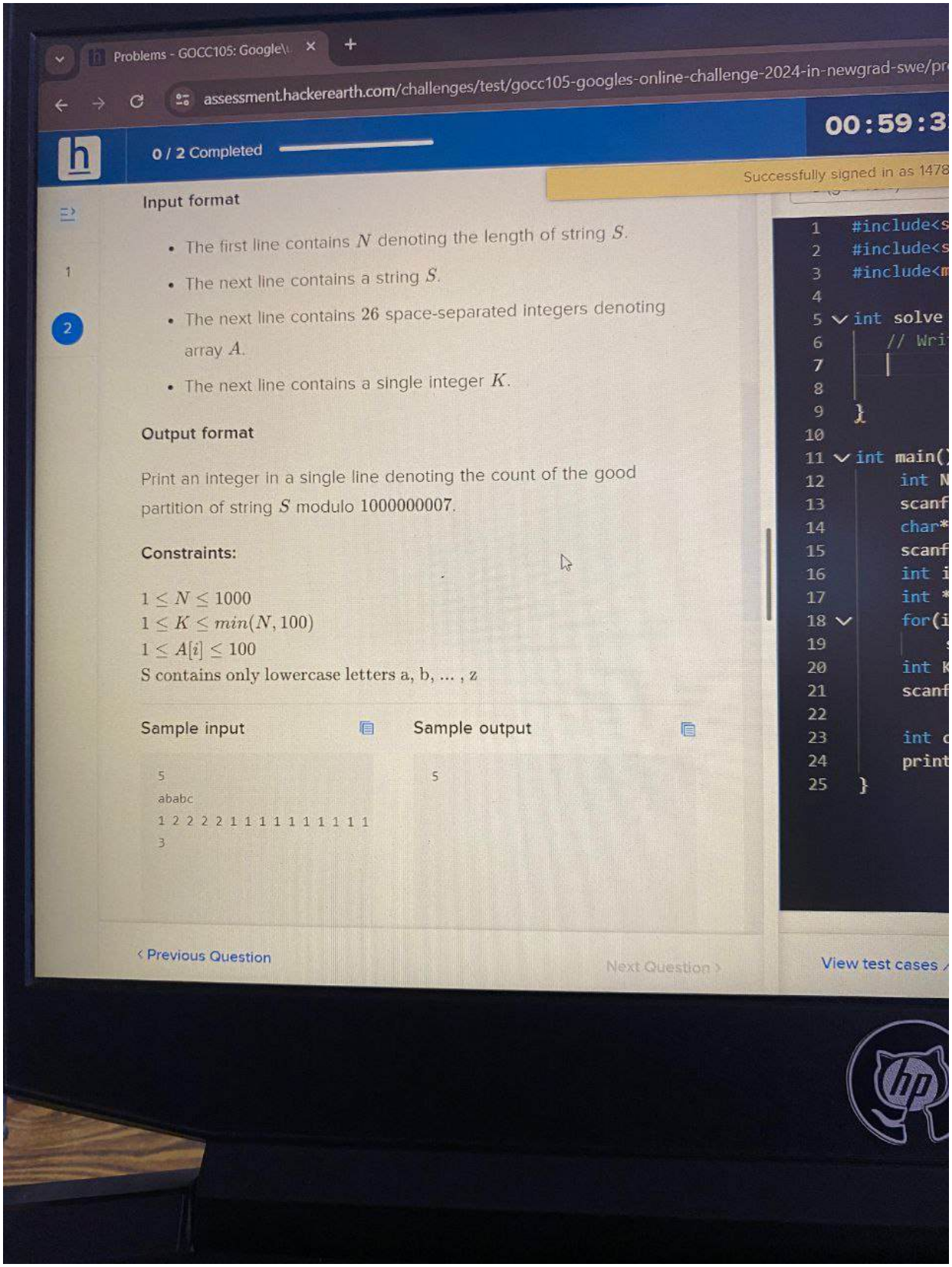
Limits

Time Limit: 1.0 sec(s) for each input file
Memory Limit: 256 MB

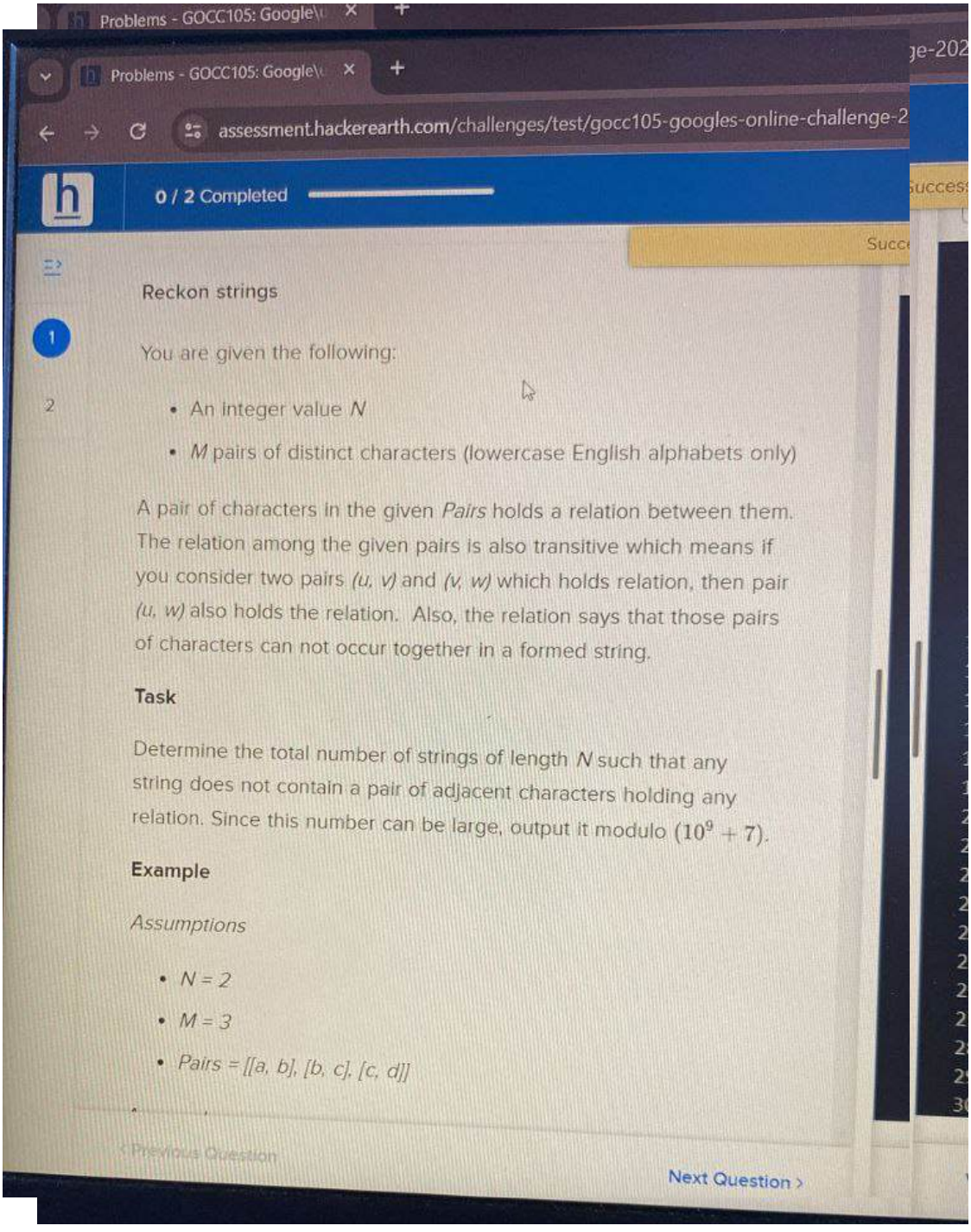
< Previous Question

Next Question >


Problems - GOCC105: Google\
assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-in-newgrad-s
0 / 2 Completed
00:59
Successfully signed in a
Explanation
Partition of given strings are:
a | b | abc
a | ba | bc
a | bab | c
ab | a | bc
ab | ab | c
aba | b | c - is not a good partition.
So the total number of good partitions are 5.
Note:
Your code must be able to print the sample output from the provided sample input. However, your code is run against multiple hidden test cases. Therefore, your code must pass these hidden test cases to solve the problem statement.
Limits
Time Limit: 5.0 sec(s) for each input file
Memory Limit: 256 MB
Source Limit: 1024 KB
Scoring
Score is assigned if any testcase passes
Allowed Languages
Bash, C, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java 8, Java 14, JavaScript(Node.js), Julia, Kotlin, Lisp (SBCL), Lua, Objective-C, OCaml,
Previous Question
Next Question
View test cas
#inclu
#inclu
#inclu
int sc
int ma
}


Problems - GOCC105: Google\
assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-in-newgrad-swe/pr
0 / 2 Completed
00:59:3
Successfully signed in as 1478
Input format
The first line contains N denoting the length of string S.
The next line contains a string S.
The next line contains 26 space-separated integers denoting array A.
The next line contains a single integer K.
Output format
Print an integer in a single line denoting the count of the good partition of string S modulo 1000000007.
Constraints:
$1 \leq N \leq 1000$
$1 \leq K \leq min(N, 100)$
$1 \leq A[i] \leq 100$
S contains only lowercase letters a, b, ... , z
Sample input
5
ababc
1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1
3
Sample output
5
#include<s
#include<s
#include<m
int solve
// Wri
}
int main()
int N
scanf
char*
scanf
int i
int *
for(i
int K
scanf
int c
print
}
Previous Question
Next Question
View test cases

Coding Test #5



Problems - GOCC105: Google\u

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-

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Successfu

Function description

Complete the *solve* function provided in the editor. This function takes the following *3* parameters and returns the count of total strings that can be formed:

- *N*: Represents an integer denoting the size of the formed string
- *M*: Represents an integer denoting the size of the list of *Pairs*
- *Pairs*: Represents the list of pairs of distinct characters

Input format

Note: This is the input format that you must use to provide custom input (available above the **Compile and Test** button).

- The first line contains an integer *T* denoting the number of test cases. *T* also denotes the number of times you have to run the *solve* function on a different set of inputs.
- For each test case:
  - The first line contains a single integer *N*.
  - The next line contains a single integer *M*.
  - Next *M* lines contain a pair of distinct characters.

Output format

Print a single integer representing the count of the total string of length $N \bmod (10^9 + 7)$ in a new line.

16
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

‹ Previous Question

Next Question ›

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Successfu

Code snippets (also called starter code/boilerplate code)

This question has code snippets for C, CPP, Java, and Python.

Sample input

```
1
4
5
i q
x n
n x
q i
e z
```

Sample output

```
445150
```

Explanation

The first line represents the number of test cases $T = 1$.

The first test case

Given

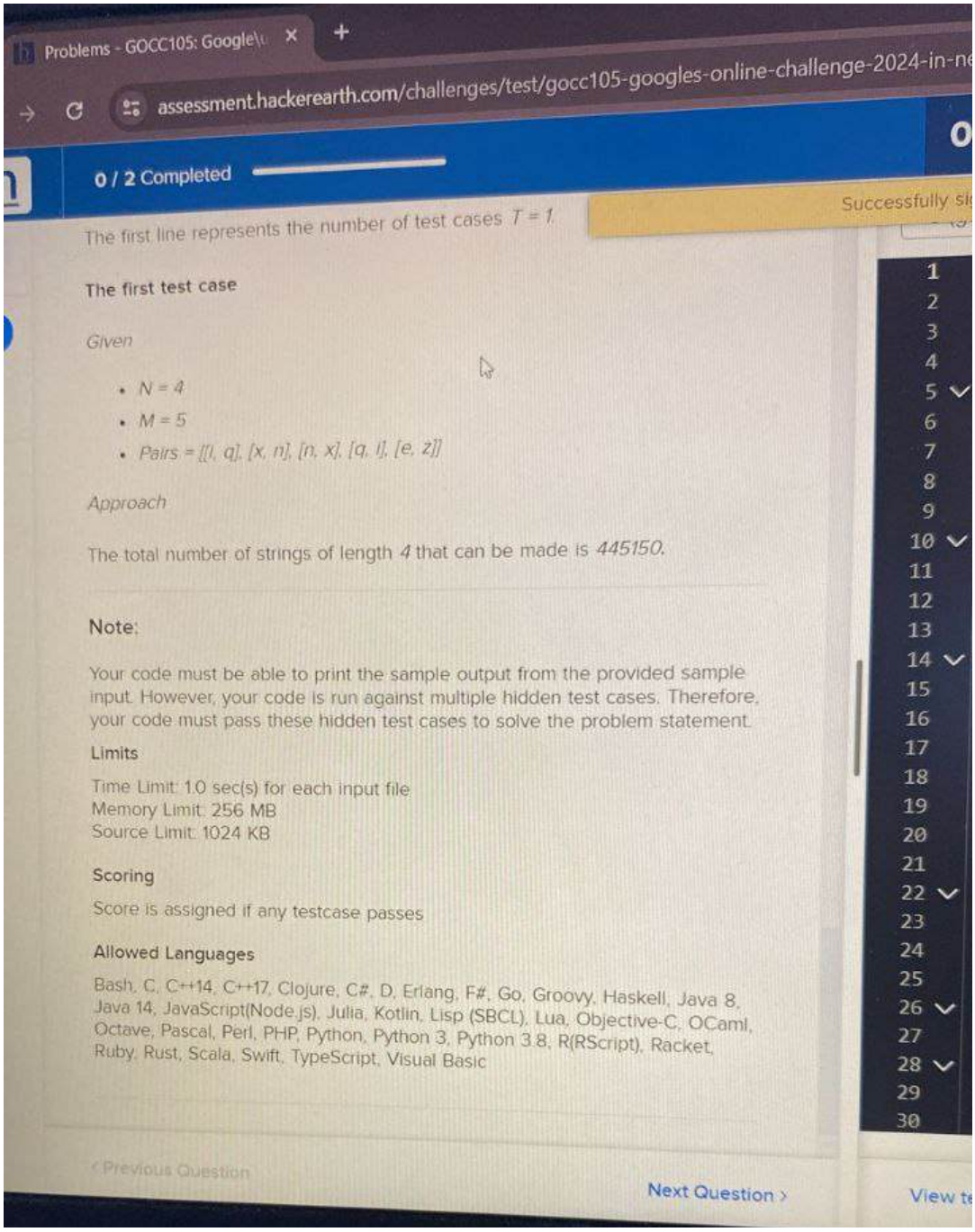
- $N = 4$
- $M = 5$
- *Pairs = [[i, q], [x, n], [n, x], [q, i], [e, z]]*

Approach

‹ Previous Question

Next Question ›

Vie


Problems - GOCC105: Google\
assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-in-ne
0 / 2 Completed
Successfully si
The first line represents the number of test cases T = 1.
The first test case
Given
N = 4
M = 5
Pairs = [[l, q], [x, n], [n, x], [q, l], [e, z]]
Approach
The total number of strings of length 4 that can be made is 445150.
Note:
Your code must be able to print the sample output from the provided sample input. However, your code is run against multiple hidden test cases. Therefore, your code must pass these hidden test cases to solve the problem statement.
Limits
Time Limit: 1.0 sec(s) for each input file
Memory Limit: 256 MB
Source Limit: 1024 KB
Scoring
Score is assigned if any testcase passes
Allowed Languages
Bash, C, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java 8, Java 14, JavaScript(Node.js), Julia, Kotlin, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift, TypeScript, Visual Basic
1
2
3
4
5
6
7
8
9
10
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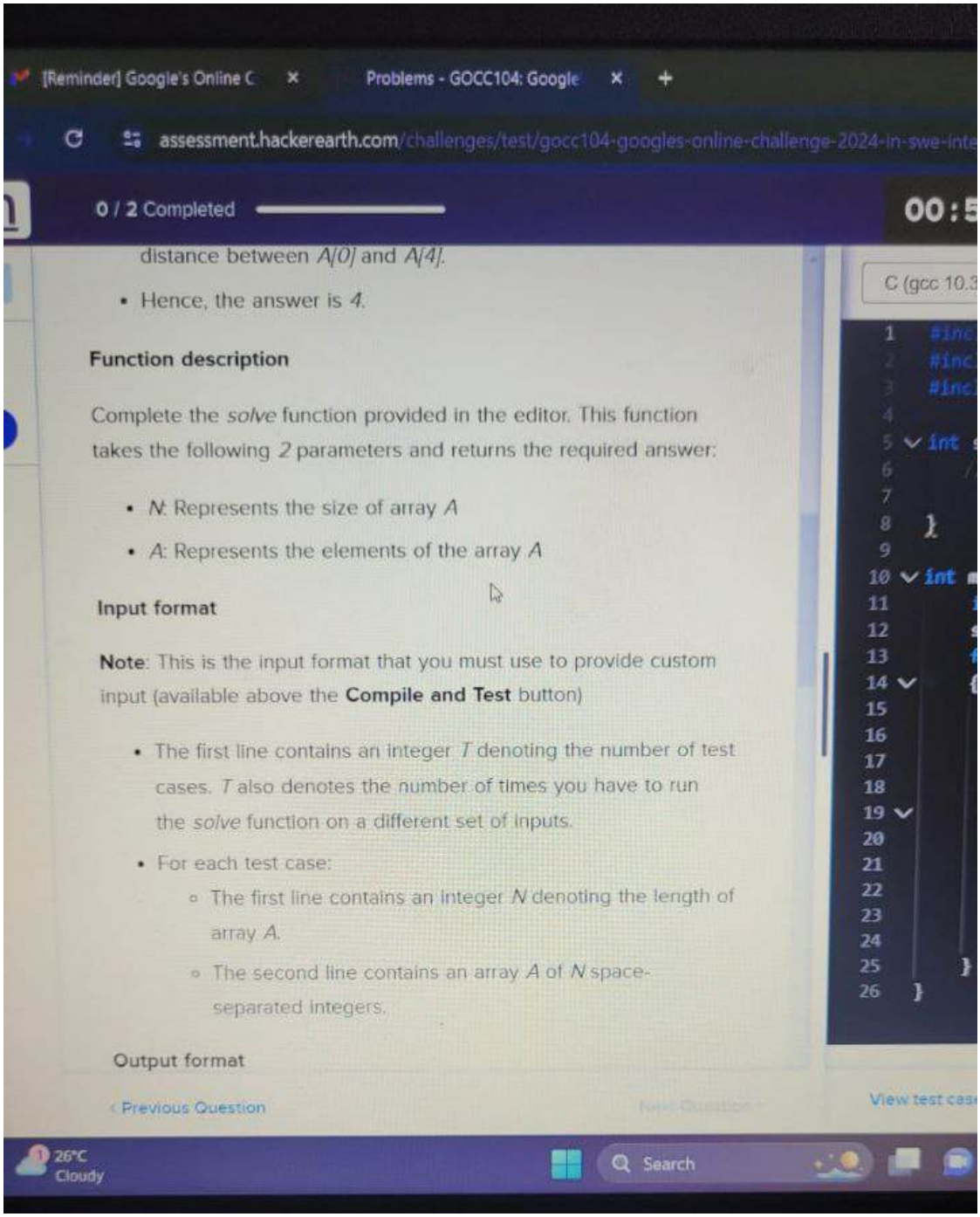
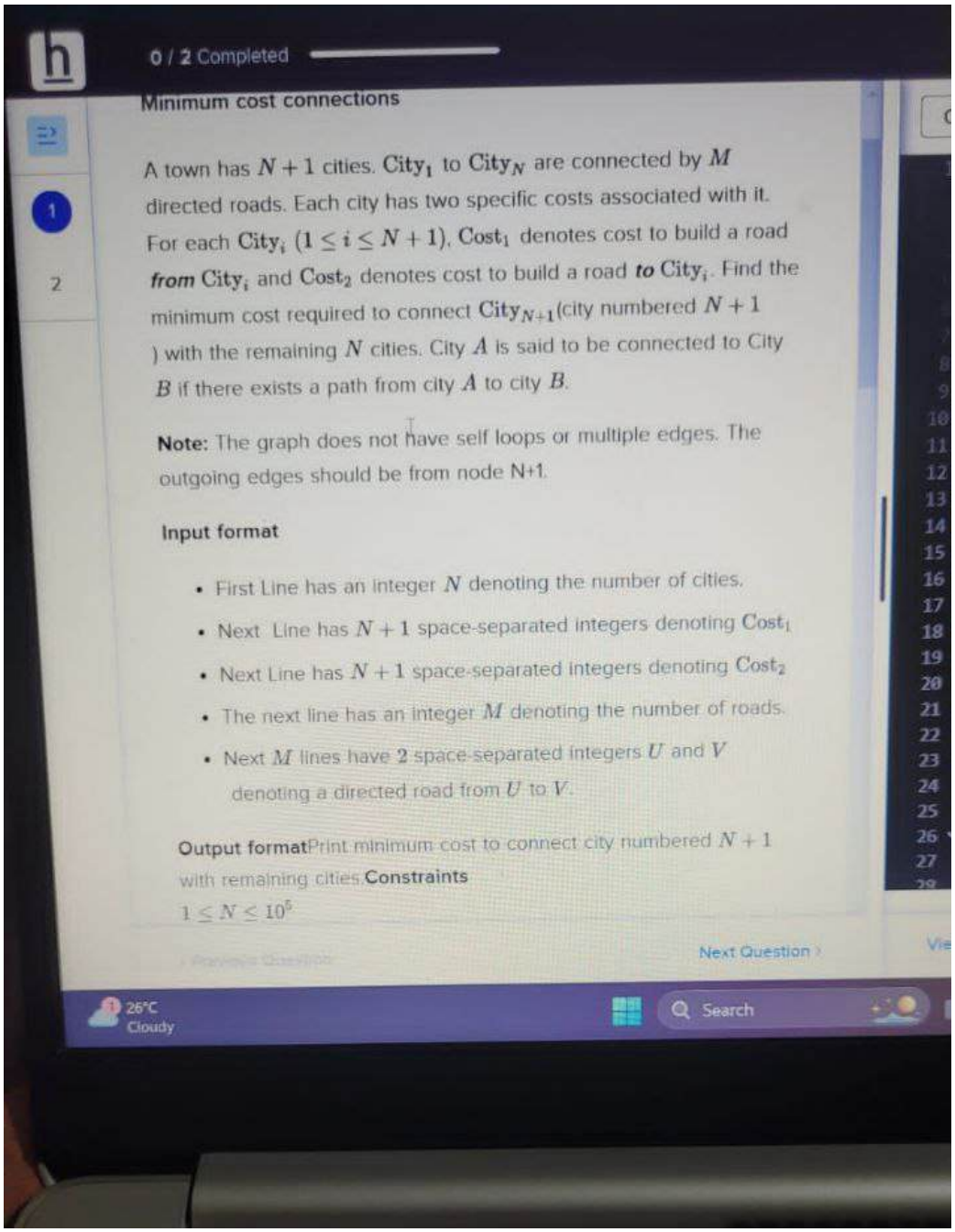
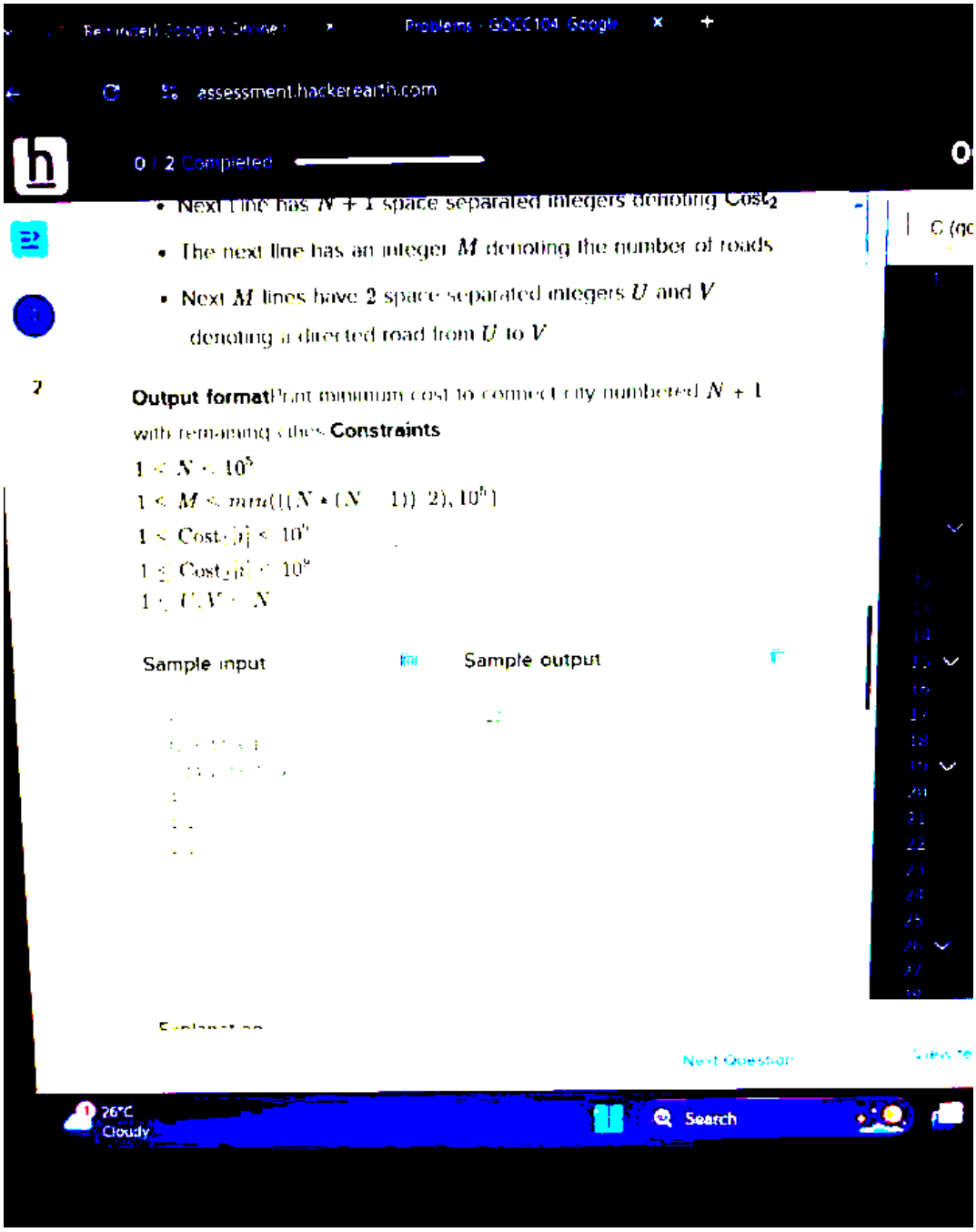
28
29
30
Previous Question
Next Question
View te


[Reminder] Google's Online C
Problems - GOCC104: Google
assessment.hackerearth.com/challenges/test/gocc104-googles-online-challenge-2024-in-swe-inte
0 / 2 Completed
00:5
distance between A[0] and A[4].
• Hence, the answer is 4.
Function description
Complete the solve function provided in the editor. This function takes the following 2 parameters and returns the required answer:
• N: Represents the size of array A
• A: Represents the elements of the array A
Input format
Note: This is the input format that you must use to provide custom input (available above the Compile and Test button)
• The first line contains an integer T denoting the number of test cases. T also denotes the number of times you have to run the solve function on a different set of inputs.
• For each test case:
◦ The first line contains an integer N denoting the length of array A.
◦ The second line contains an array A of N space-separated integers.
Output format
C (gcc 10.3
1 #inc
2 #inc
3 #inc
4
5 int
6
7
8 }
9
10 int
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26 }
Previous Question
View test cas
26°C
Cloudy
Search


0 / 2 Completed
Minimum cost connections
A town has $N+1$ cities. $\mathbf{City_1}$ to $\mathbf{City_N}$ are connected by M directed roads. Each city has two specific costs associated with it. For each $\mathbf{City_i}$ $(1 \leq i \leq N+1)$, $\mathbf{Cost_1}$ denotes cost to build a road ***from*** $\mathbf{City_i}$ and $\mathbf{Cost_2}$ denotes cost to build a road ***to*** $\mathbf{City_i}$. Find the minimum cost required to connect $\mathbf{City_{N+1}}$(city numbered $N+1$) with the remaining N cities. City A is said to be connected to City B if there exists a path from city A to city B.
Note: The graph does not have self loops or multiple edges. The outgoing edges should be from node N+1.
Input format
First Line has an integer N denoting the number of cities.
Next Line has $N+1$ space-separated integers denoting $\mathbf{Cost_1}$
Next Line has $N+1$ space-separated integers denoting $\mathbf{Cost_2}$
The next line has an integer M denoting the number of roads.
Next M lines have 2 space-separated integers U and V denoting a directed road from U to V.
Output formatPrint minimum cost to connect city numbered $N+1$ with remaining cities.Constraints
$1 \leq N \leq 10^5$
Next Question
26°C Cloudy
Search

Coding Test #6



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0 / 2 Completed

Question 2 | **Max. score: 30.00**

C (gcc

Three numbers

You are given an array A of size N.

A triplet of three numbers $A[i]$, $A[j]$, $A[k]$ is said to be good if the following conditions are met:

- $i < j < k$
- For every p [illegible] $A[p]$ [illegible] $A[i]$ and $A[p]$ [illegible] $A[j]$
- For every q [illegible] $A[q]$ [illegible] $A[j]$ and $A[q]$ [illegible] $A[k]$

Task

Among all possible triplets which are good, determine the [illegible] possible distance between $A[i]$ and $A[k]$.

Notes

- [illegible] indexing is followed
- [illegible]

Example

Previous Question

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Cloudy

Search

Notes

- *0* based indexing is followed
- Distance between two numbers say *A[x]* and *A[y]* in an array is $|x - y|$, where $|x|$ represents the absolute value of x

Example

Assumptions

- *N* = 5
- *A* = [2, 1, 4, 3, 5]

Approach

- [illegible]
- [illegible]
- [illegible]

Function description

[illegible]

- [illegible]

C (gc

```
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Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2

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Succ

Reckon strings

1

2

You are given the following:

- An integer value *N*
- *M* pairs of distinct characters (lowercase English alphabets only)

A pair of characters in the given *Pairs* holds a relation between them. The relation among the given pairs is also transitive which means if you consider two pairs *(u, v)* and *(v, w)* which holds relation, then pair *(u, w)* also holds the relation. Also, the relation says that those pairs of characters can not occur together in a formed string.

Task

Determine the total number of strings of length *N* such that any string does not contain a pair of adjacent characters holding any relation. Since this number can be large, output it modulo $(10^9 + 7)$.

Example

Assumptions

- *N = 2*
- *M = 3*
- *Pairs = [[a, b], [b, c], [c, d]]*

Next Question

Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-202

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relation. Since this number can be large, output it m

Succes

Example

Assumptions

- *N = 2*
- *M = 3*
- *Pairs = [[a, b], [b, c], [c, d]]*

Approach

- Since *(a, b)* and *(b, c)* shares a transitive relation from *'b'*, thus a relation among all pairs in *(a, b, c)* holds true.
- Since *(a, b, c)* and *(c, d)* shares a transitive relation from *'c'*, thus a relation among all pairs in *(a, b, c, d)* holds true.
- Thus, these pairs of adjacent characters should not occur in the formed string *(ab, ac, ad, ba, bc, bd, ca, cb, cd, da, db, dc)*.
- The strings that can be formed of length *2* are: *("aa", "ae", "af", ... , "bb", "be", ...)*.

Therefore, the total number of strings that can be formed is *664*. Hence, the answer is *664*.

Function description

Complete the *solve* function provided in the editor. This function takes the following *3* parameters and returns the count of total

Next Question

Problems - GOCC105: Google\

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-

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Successfu

Function description

Complete the *solve* function provided in the editor. This function takes the following 3 parameters and returns the count of total strings that can be formed:

- *N*: Represents an integer denoting the size of the formed string
- *M*: Represents an integer denoting the size of the list of *Pairs*
- *Pairs*: Represents the list of pairs of distinct characters

Input format

Note: This is the input format that you must use to provide custom input (available above the **Compile and Test** button).

- The first line contains an integer *T* denoting the number of test cases. *T* also denotes the number of times you have to run the *solve* function on a different set of inputs.
- For each test case:
  - The first line contains a single integer *N*
  - The next line contains a single integer *M*
  - Next *M* lines contain a pair of distinct characters

Output format

Print a single integer representing the count of the total string of length $N \bmod (10^9 + 7)$ in a new line.

Next Question

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-

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Successfu

Code snippets (also called starter code/boilerplate code)

This question has code snippets for C++, C, Java, and Python

Sample input

Sample output

Explanation

The first line represents the number of test cases, T.

The first test case

Given

- *N = 4*
- *M = 5*
- *Pairs =*

Approach

Next Question

Vie

Problems - GOCC105: Google's × +

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0 / 2 Completed

Successfully s[illegible]

The first line represents the number of test cases [illegible]

The first test case

Given

- N = 4
- M = 5
- Pairs = [illegible]

Approach

The total number of strings of length 4 that can be made is [illegible]

Note:

Your code must be able to print the sample output from the provided sample input. However, your code is run against multiple hidden test cases. Therefore, your code must pass these hidden test cases to solve the problem statement.

Limits

Time Limit: 1.0 sec(s) for each input file
Memory Limit: 256 MB
Source Limit: 1024 KB

Scoring

Score is assigned if any testcase passes

Allowed Languages

Bash, C, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java 8, Java 14, JavaScript(Node.js), Julia, Kotlin, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift, TypeScript, Visual Basic

Next Question

View te[illegible]

assessment.hackerearth.com/challenges/test/gocc104-googles-online-challenge-2024/

0 / 2 Completed

Question 1

Max. score: 50.00

Minimum cost connections

A town has $N + 1$ cities City_1 to City_{N+1} are connected by M directed roads. Each city has two specific costs associated with it for each City_i $(1 \leq i \leq N + 1)$, Cost_1 denotes cost to build a road ***from*** City_i and Cost_2 denotes cost to build a road ***to*** City_i. Find the maximum cost required to connect City_{N+1} (city numbered $N + 1$) with the remaining N cities. City A is said to be connected to City B if there exists a path from city A to city B.

Note: The graph does not have self loops or multiple edges. The endpoint edges should be from node N+1

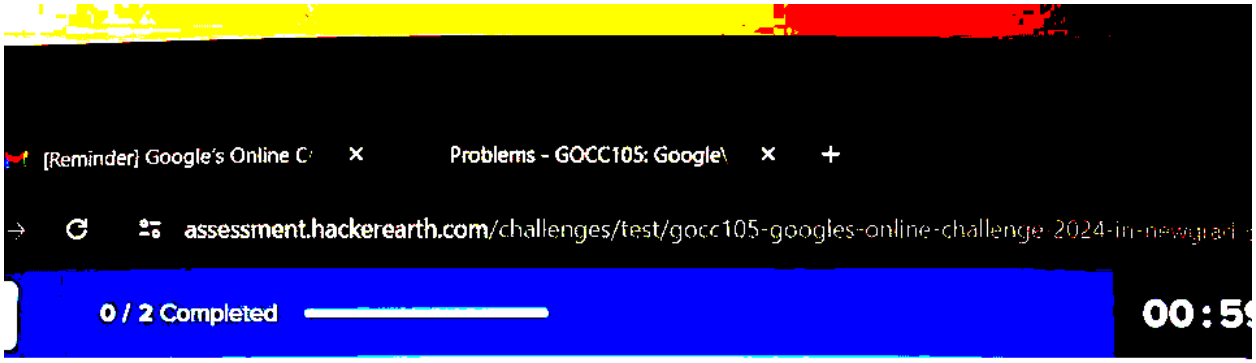
Input format

- First Line has an integer N denoting the number of cities
- Next Line has N + 1 space separated integers denoting Cost
- Next Line has N + 1 space separated integers denoting Cost
- The next line has an integer M denoting the number of roads
- Next M lines has 2 [illegible]

Mostly cloudy

Search

Awesome Factor



Question 1

Max. score: 30.00

Awesome factor

You are given an array A consisting of N integers. You choose two indices i and j such that $1 \leq i \leq j \leq N$. the awesomeness of the index i is defined as follows:

- $awesomeness = (A[i] \ldots A[j]) * INF^{(N-(j-i))}$ where INF is a constant having value $INF = 10^8$.

Task

Determine the maximum value of the *awesomeness* in the array. Report the value after taking the modulo with $10^9 + 7$.

Note: 1 based indexing is followed.

Example

Assumptions

- $A = [3, 2, 1]$
- $N = 3$

Approach

- For $i = 1$ you can take $j = 2$ as awesomeness = $(3 * INF) * 2 = INF * 2$

Next Question

[Reminder] Google's Online Cl × Problems - GOCC105: Google\ × +

assessment.hackerearth.com/challenges/test/gocc105-googles-online-challenge-2024-in newgrad

0 / 2 Completed 00 : 5

- $A[] = \{1, 2, 1\}$
- $N = 3$

Approach:

- For $i = 1$, you can take $j = 2$, so awesomeness = $(1+2)*INF^{(1+2-1)} = INF^2$, awesomeness$^2(10^9+7) = 930000007$.
- For $i = 1$, you can take $j = 3$, so awesomeness = $(3-1)*INF^{(3-2+1)} = 2*INF$, awesomeness$^2(10^9+7) = 200000000$.
- For $i = 2$, you can take $j = 3$, so awesomeness = $(2-1)*INF^{(2-2+1)} = INF^1$, awesomeness$^2(10^9+7) = 930000007$.
- For $i = 3$, you can take $j = 3$, so awesomeness = $(4-4)*INF^{(4-3+1)} = 0*INF^2$, awesomeness$^2(10^9+7) = 0$.

The maximum awesomeness for index $i = 1$ and $j = 2$ or $i = 2$ and $j = 3$. Hence, the answer modulo 10^9+7 is 930000007.

Function description

Complete the *Awesomeness* function provided in the editor. This function takes the following 2 parameters and returns the required answer:

- *N*: Represents the size of the array
- *A*: Represents the array

Next Question

Search

the **Compile and Test** button.

- The first line contains a single integer T which denotes the number of test cases. T also denotes the number of times you have to run the *AwesomeFactor* function on a different set of inputs.
- For each test case:
  - The first line contains N denoting the size of the array.
  - The second line contains array A.

Output format

For each test case, print an integer value in a new line that is the maximum *awesomeness* modulo $10^9 + 7$.

Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 10^5$

$1 \leq A_i \leq 10^7$

Code snippets (also called starter code/boilerplate code)

This question has code snippets for C, C++, Java, and Python.

Sample input

Sample output

0 / 2 Completed

Question 2

Max. score: 30.00

1

Collection of items

2

There are N items. Each item i ($1 \leq i \leq N$) is placed at a point $P_i(X_i, Y_i)$. Let the starting point be $S(X_s, Y_s)$. Find the minimum distance traversed from S to bring all the items to point S. At most two items can be picked at a time. Items must be brought back to point S.

Note

- Items picked cannot be kept at any other point.
- The distance between any two points is the Manhattan distance between them.
- Each point is distinct.
- The Manhattan distance between two points (x_1, y_1) and (x_2, y_2) is $|x_1 - x_2| + |y_1 - y_2|$.

Input format

- The first line contains an integer N denoting the number of items.
- Next N lines contain two space-separated integers denoting the i^{th} point $P_i(X_i, Y_i)$.
- The last line contains two space-separated integers denoting point $S(X_s, Y_s)$.

Previous Question