1)Monica has cooked N dishes and collected the data on the level of satisfaction for all the

dishes from a guest. The guest return an array, where the " element of the array is the liking level of the l" dish. Also, the time taken to cook the i dish is i. Ly

Like-to-time coefficient of a dish is calculated by multiplying the time taken to cook food with Its liking level, I.e., I'input2(i). Total Like-to-time coefficient is calculated by summing up all Individual coefficients of dishes.

You want the total Like-to-time coefficient to be maximum. You can also remove some dishes, in which case, a new coefficient is calculated using the left dishes.

Find the maximum sum of all possible Like-to-time coefficients,

Input Specification:

input1: N, number of dishes

input2: Array representing the linking value of each dish

Output Specification:

Return maximum like-to-time coefficient possible

Example 1: input1: 3

inputz: {-1,3,4}

OUTPUT:17

2) Imagine a small Amazon Go store that has exactly one tumstile, It can be used by customers either as an entrance or an exit. Sometimes multiple customers want to pass through the turnstile and their directions can be different. The ith customer comes to the turnstile at time[i] and wants to either exit the store if direction] - 1 or enter the store if direction(J - 0.

Customers form 2 queues, one to exit and one to enter. They are ordered by the time when they came to the turnstile and, if the times are equal, by their indices.

If one customer wants to enter the store and another customer wants to exit at the same

moment, there are three cases:

1. If in the previous second the turnstile was not used (maybe it was used before, but not at the previous second), then the customer who wants to exit goes first.

2. If in the previous second the turnstile was used as an exit, then the customer who wants to leave goes first.

3. If in the previous second the turnstile was used as an entrance, then the customer who wants to enter goes first.

Passing through the turnstile takes 1 second.

3) Reverse Characters in a String

Write a function to reverse all the characters of each word in an input string te inputi, capitalize only the first letter of each word and return the output string.

Input Specification:

input1: An input string

Output Specification:

Return a string with the characters of each word in the reverse order and the first letter of each word capitalized.

Example 1:

input1: Hello world

Output: Olleh Dirow

Explanation:

The reverse of the word "Hello" with its first letter capitalised is "Olleh" and similarly for the word "world", it is "Dirow". Hence the output string returned is Olleh Dirow.

4) Mr. Professor is a great scientist, but he is not able to find a solution to one problem. Then are N straight lines that are not parallel, and no three lines go through the same point. The lines divide the plane into M regions. Write a function to find out the maximum number of such regions he can get on the plane.

Input Specification:

input1: An integer N representing the number of straight lines (0 «a N «a 100)

Output Specification:

Return the maximum number of regions

Example 1: input1: 2

Output: 4

5) Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You we be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series

Note: If you are not able to get an output, return 999

Input Specification:

input: An integer value N denoting the length of the array Input: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1: input1: 5

input: (1, 1, 2, 3, 5)

Output: 8

6) Arithmetic Progression

Given the second and the third terms of an AP (-10" « 32, a3 < 10\*), And the n' <= 1000) term of the sequence.

Input Specification:

input1: Second element of series (integer). input2: Third element of series (integer).

inputs: Total number of elements in the series (Integer).

Output Specification:

Return the n' element of the series.

Example 1:

input1: 1

input2: 2

input3: 4

Output: 3

7) A company has hired N interns, labeled from 1 to N. Each intern is given a device which generates a number everyday that will be used as a password for their authentication at the office door every day in the morning. The internship is for 50 days numbered from 0 to 49 Initially (on the 1% day), the number in the device of the kth intern will be equal to (5000\*k).

From the 2'd day (I.e., i=1), a new number will be generated every day in each device in the following way:

\* Day(i)= Day(i-1) + 5000 + 1

Find the label of an intern from the given password used by him/her.

Input Specification:

input1: N, number of interns input2: P. password used

Output Specification:

Return the label of the intern to whom the given password belongs to.

8) There are many sets of points on the horizontal axis of a coordinate plane. For any given set, the set is reduced to that point. Given X sets, determine the number of points one should pick to reduce all the points to the minimum number.

Input Specification:

•Input1: X , the number of sets.

•Input2: An array consisting of X pairs, each pair indicating the start and end of a range.

Output Specification:

•Return an integer representing the minimum number of points required.

Example:

•Input1: 3

•Input2: {(1, 3), (2, 5), (3, 6)}

•Output: 1

9) Evaluate a Given Infix Expression

In Infix expressions, operators are written between their operands.

An expression such as A \* (B + C )/D is usually taken to mean something like:

1. Add B and C together

2. Multiply the result by A

3. Divide by D to get the final answer

Write a program that takes input as a string containing an infix expression and returns the evaluated infix expression.

Note:

1. The string contains operators (+,-/.\*), parenthesis and operands (digits).

2. Each digit is a separate operand.

3. The division operator performs integer division.

4. It is guaranteed that division by zero will never occur during the evaluation and return the evaluated expression

Note:

1. The string contains operators (+,-,\*), parenthesis and operands (digits).

2. Each digit is a separate operand.

3. The division operator performs integer division.

4. It is guaranteed that division by zero will never occur during the evaluation.

The operator precedence is as follows:

1. [divide (l) and multiply(\*) operator ] > [addition(+) and subtraction(+) operator ].

2. If you encounter operators with same pecedence like (divide and multipy) or (addition and subtraction), then evaluate the operators from let to right.

Input Specification:

inputt: a string that contains the infix expression.

Output Specification:

Return the evaluated value of infix expression

Example 1:

input1: 8+(7-9)\*2

Output: 4

Explanation:

→> 8+(7-9)\*2

=> 8+(-2)\*2

=> 8-4

→ 4

Example 2:

input1: 10+2\*6

Output: 22

Explanation:

=> 10+2\*6

=> 10+12

=>22

10) Problem statement

A palindrome is a sequence of characters that has the property of reading the same in either direction.

You are given a string str. Find minimum characters required to append at the end of string str to make it a palindrome. In case :

Note:

\* The string str will contain only lower case English alphabets.

Input Format:

The input consists of two lines:

\* The first line contains an integer, i.e. the length of str.

\* The second line contains a string, i.e. str.

The input will be read from the STDIN by the candidate

Output Format:

The output consists of minimum characters needed to make str palindrome or "NULL" in case str is already a palindrome.

The output will be matched to the candidate's output printed on the STDOUT

Constraints:

\* 15 Length of string str - 60000

Example:

Input:

5

abcdo

Output: ba

Explanation:

if we append "ba"at the end of the string str

abeace, it becomes 'abedeba' (i.e. A palindrome string)

11) You are given an integer n find and print the sum of all of its divisors starting from 1.

Note:

\* Sum lies within the integer range.

Input Format:

The input consists of a single line of input:

\* The line contains a single integer, i.e. n.

Input will be read from the STDIN by the candidate

Output Format:

The output will be a single integer, i.e. the sum of all its divisors starting from 1.

The output will be matched to the candidate's output printed on the STDOUT

Constraints:

0 <n < 10

9

Example:

Input:

6

Output:

12

Explanation:

Divisors of 6 are (1, 2, 3, 67

Sum - 1 + 2 + 3 + 6 = 12, hence the output is 12.

Sample Input

12

Sample Output

28

12) An e commerce company is planning to give a special discount on all its product to its customers for the Christmas holiday. The company possesses data on its stock of N product types. The data for each product type represents the count of customers who have ordered the given product. If the data K is positive then it shows that the product has been ordered by K customers and is in stock. If the data Kis negative then it shows that it has been ordered by K customers but is not in stock. The company will fulfill the order directly if the ordered product is in stock. if it is not in stock, then the company will fulfill the order after they replenish the stock from the warehouse. They are planning to offer a discount amount A for each product. The discount value will be distributed to the customers who have purchased that selected product. The discount will be distributed only if the decided amount A can be divided by the number of orders for a particular product.

Write an algorithm for the sales team to find the number of products out of N for which the discount will be distributed.

Input

The first line of the Input consists of an integer- numorProducs, representing the number of aiferent types of products

(N).

The second line consists of N space-separated integers ordero order order, representing the current status of the stock for the orders of the respective product types.

The last line consists of an integer- disAmount representing the discount amount that will be distributed among the customers.

Output

Print an integer representing the number of products out of N for which the discount will be distributed

Constraints

0 ≤ numOfProducts, disAmount s 105

-105 ≤ order,≤ 106

0≤i < numOfProducts

Example

Input

9-13 8-7-8 18 10

18

Output:

2

Explanation:

The products for which the customers will collect the discount are of product types 0 and 5, Le, 9 and 18, respectively so the output is 2.

13) Max Contiguous Sequences

Given an array of N integers, determine all contiguous sutsequences al positive numbers. Then write a function to find the sum of elements in each sub-sequence and output the maxmum sum value

Input Specification:

input1: An integer N denoting length of array

input2: An integer array of length N (-10000 <= Af] = 10000)

Output Specification:

Return the maximum sum of contiguous sub-sequence of numbers

Example 1: input1: 5

input2: (1.2.4-2,3}

1.How to attempt? Question:

Three people are playing a game in which one person is selected first. The second person gives the person selected first a number N. The third person also gives the selected person a number M.

The person selected first has to maximize the number given by the second person so that

1. The number given by the second person can be maximized only by swapping the adjacent two digits of the number.

2. The number that the third person gives is the maximum number of swaps allowed

Find and return the maximum number that the selected person can achieve.

Input Specification:

Input1: a string representing the number N

Input2: an integer representing the number M

Note: The number N is given in the string format as input.

Output Specification:

Return the maximum number the person can achieve in M swaps

Example 1:

Input1: 1234

Input2: 2

2. Harry's Quest

Harry Potter is visiting his uncle's house, the House of Black, and wants to know more about the family through their ancestral tree. He notices that the ancestral tree begins with the Head of the Family at the top, having 2 children as his descendants. This pattern is followed throughout and each member is represented by a unique integer

Given the relationships in the form of an integer array where the Head of the Family is at the first position (=0) and his children are at positions (2\*1 + 1) and (2\*1+2)

Your task is to help Harry find and return all the siblings of any given family member and return them in the form of a sorted array

Note: If there are no siblings, return (-1)

Input Specification:

input1: An integer value denoting the length of the array input2

input2:An integer array representing the ancestral tree

input3: An integer X representing the family member whose siblings are to be found

Output Specification:

Return the array of all siblings in increasingly sorted order. If no such sibling is found then retum {-1}.

Example 1:

Input1:5

input2: {1,2,3,4,5}

input3: 1

Output: {-1}

Explanation:

We need to find siblings of member, X = 1. Since 1 is the root of the tree, it has no siblings. Therefore, (-1) is returned as the output

Example 2:

input1: 6

input2: {1,2,3,4,5,6}

Input3: 5

Output: {4.6}

Explanation:

**X**

We need to find siblings of member, X = 5.

{2,3} are the children of {1}, and {4,5,6) are the children of (2.3)

Thus, the siblings of 5 are 4 and 6. Hence (4,6) is returned as the output

3.

Profit Development

"Babylon' is an MNC that sells its products all around the world. Their CEO is very curious about customer satisfaction, so he makes a team to survey the customers in each state, in all the countries. He decides to complete the survey in 1 month while minimizing the travelling expenses of his development team (assuming the cost of travelling from state to state is very low as compared to travelling from country to country).

There are a total of C countries and S states in each country.

You are provided with survey data of all the countries. Survey data is a list of rating from S states. Each rating will be a single-digit number between 1 to 9.

The CEO has defined some rules that will def the order in which the team will visit all the states in all the countries:-

1. Company will begin its survey from the state which has the lowest rating.

2. When the company starts working in a country it will complete its survey in all its states to minimize the travelling expenses

As the company's analyst, your task is to decide the order in which the countries should be visited so that the process can be conducted first, where it is required the most Given the month number, your task is to return the country number as well as the state rating that the company is working on in that month.

Note: The month count starts from 1and if two or more countries have the same lowest rating then choose the country whose state has the second lowest rating

Input Specification

input1: An integer value denoting the length of survey list.

input2: An integer value S denoting the number of states in a country.

input3: An integer value denoting the month number.

input4: An array of integers containing survey rating of all the countries in the order, first S ratings will be of country 1, next S ratings will be of country 2, and so on.

Output Specification

output1: An integer value denoting the country number the company is working on in that month.

output2: An integer value denoting the state rating the company is working on in that month.

Example 1:

Input1: 6

input2: 3

input3: 6

input4: {2,1,9,3,1,4}

Explanation:

Survey ratings of respective states in their countries, after sorting: -

Country->1 1, 2,9

Country->2 1, 3, 4

The order of visit will be:

Country->1 Country->2.

Lowest rating in both the countries is same i.e., 1. Therefore we will look for the country with the next lowest rating. Since rating 2 is smaller than rating 3, hence, Country1 will be visited first.

After visiting all the states in Country1, in the 6th month, the team will be in Country2 in the state whose rating is 4.

Therefore, 2 and 4 will be returned as output1 and output2 respectively.

Example 2:

Input1: 12

input2: 3

input3: 7

Input4: {4,5,7,9,3,2,5,1,3,2,4,1}

output1: 2

output2: 2

Explanation:

Survey ratings of respective states in their countries, after sorting

Country1->4,5,7

Country2-> 2.3.9

Country3-> 1,3,5

Country4-> 1,2,4

1.An alternate sort of a list consists of alternate elements (starting from the first position) of the given list after sorting it in an ascending order. You are given a list of unsorted elements. Write an algorithm to find the alternate sort of the given list.

Input

The first line of the input consists of an integer size, representing the size of the given list (N).

The second line consists of N space-separated integers arro, arrar, representing the elements of input list

Output

Print space-separated integers representing the alternately sorted elements of the given list.

Constraints

0< size <=10^6

10^6<= arr i <=10^6

0<=i<= size

Example

Input:

8

351591026

Output:

1359

Explanation:

After sorting, the list is 1.2.3.5.5.6.9.101

2. Find the time taken to bake a cake for a cooking competition Enter the starting time and ending time. Use the structure

Create structure

struct Time{

123456789101112

int hours:

int minutes;

int seconds;

};

Write a program to find the time taken to bake a cake for a cooking competition

Assume: The end time's hours, minutes and seconds are greater than the start time's hours, minutes and seconds.

Sample Input:

Enter the starting time:

hours:

Sample Input:

Enter the starting time:

hours:

5

minutes:

2

seconds:

0

Enter the ending time:

hours:

7

minutes:

30

seconds:

45

Sample output:

Time taken:

2 hours:28 mins:45 secs

3. How to attempt P

Question:

Primes with a Twist

Given an integer n (1 <= n <= 10'), you need to count the numbers, x, <n, which are co-prime to 'n', Le. gcd(x, n) = 1.

Formally, given n, you need to find f(n) = {x <n: gcd(x, n) = 1).

Input Specification:

input1: the integer 'n'

Output Specification:

Return the count of the number of co-primes of 'n'.

Example 1:

input1: 4

output1: 2

Explanation:

Integers 1 and 3 are co-prime to 4, but 2 is not

Example 2:

input1: 16

Output: 8

Explanation: Integers 1, 3, 5, 7, 9, 11, 13 and 15 are co-prime to 16.

4. Charles wants to buy a necklace in which.

1. There is a minimum of 1 pearl and maximum of X pearls, such that each pearl has its own magnificent coefficient.

2. The pearls should be in non-decreasing order of their magnificence

You are given the maximum number of pearls in a necklace and the ra the magnificent coefficients of the pearls. Find the number of necklace can be made that follow the mentioned conditions.

Input Specification.

input1: Maximum number of pearls that can be used on the necklace

input2: Starting magnificent coefficient of pearls

input3: Ending magnificent coefficient of pearls

Output Specification:

Return the number of necklace options possible as per given conditions.

Example 1:

input1: 1

input2: 4

input3: 5

5.Anagrams

An anagram is a word, phrase, or name formed by rearranging the letters of another word phrase, or name

Write a function to check if two given strings are anagrams or not Resumes they a anagrams, otherwise return no

Input Specification:

Input: the first string

input2 the second string

Output Specification:

Return "yes" if they are anagrams, then return "no’’

Example 1

inputt: bld

input2:

Output: yes

Explanation:

First string can be rearranged to form the second string. Hence, they are anagram of each other.

Example 2:

input1: beast

input2: yeast

Output: no

Explanation:

The first string contains the letter 'b' which is not present in the second song Similary the second string contains the letter 'y' which is not present in the lost saing Mence, the tec strings are not anagram of each other.

6. Arithmetic Progression

Revisit

Given the second and the third terms of an AP (-10^6<= a2, a3 <= 10^6), find then (1 n 1000) term of the sequence.

Input Specification:

input1: Second element of series (Integer).

Input2: Third element of series (Integer).

input3: Total number of elements in the series (Integer).

Output Specification:

Return the n element of the series.

Example 1:

input1: 1

input2: 2

input3: 4

Output: 3

Explanation:

a 2=5,a3=8, n=4 d=3, an=a4= 11 (d refers to the common difference between adjacent terms in an arithmetic progression)

7.Question:

Euler's Totient Function

Given an integer 'n' (1 <= n <= 109), find the number of positive integers which are less than or equal to n and also are relatively prime to n. An integer a is relatively prime to another integer b if god(a,b)=1.

You need to fill in a function that takes integer 'n' as an input and returns the number of positive Integers which are less than or equal to n (positive integers <= n) and that are relatively prime to n.

Input Specification:

Input1: An integer in the range of 1 <= input1 <= 109.

Output Specification:

Return the number of positive integers which are less than or equal to n and that are relatively prime to n.

Example 1:

input1: 6

Output: 2

7.Longest Competitive Subsequence

Geek read about the competitive array today, which is defined as an array where the difference between its maximum and minimum value is exactly 1.

Given an array of N integers, can you help him find the length of the longest competitive subsequence among all its possible subsequences?

A subsequence of an array is a sequence that can be derived from the array by deleting some or no elements without changing the order of the remaining elements. For example consider the array A= [1,2,3,4], then some of its subsequences are [1,3,4], [2,3], [2,4], [1], [2].

Example 1:

Input:

N=8 A= [1,3,2,2,5,2,3,7]

Output: 5

Explanation: The longest competitive subsequence is [3,2,2,2,3].

Example 2:

Input: N=5 A [2,2,2,2,2]

Output: 0

Your task:

You have to complete the function find\_LCS() which takes 2 parameters: N and nums [] (0-based indexing) and return the longest competitive subsequence.

Constraints:

1≤ N ≤105

05 arr[i] ≤ 10°

Expected Time Complexity: 0 (N\*log(N))

Expected Auxiliary Space: 0(1)

8.Workers Dilemma

Two workers, Ed and John are best friends. They work as freelancers and projects from various companies.

They want to maximize the money they save by working on various project Both of them can only do a certain amount of work each day and they mal sure to do all the projects given to them.

Your task is to find and return the total amount of money saved by them.

Note: Both Ed and John cannot work on the same project

Input Specification:

input1: An integer value denoting the total number of projects.

input2: An integer array representing the money saved by Ed on each project.

Input3: An integer array representing the money saved by John on

each project.

Input4: An integer value denoting the maximum projects that can be taken up by Ed.

input5: An integer value denoting the maximum projects that can be taken up by John

taken up by Ed inputs: An integer value denoting the maximum project laken up by John.

Output Specification:

Return the total amount saved by both Ed and John.

Example 1:

input1: 5

Input2: (1, 2, 3, 4, 5}

input3: (5, 4, 3, 2, 13

input4: 3

input5: 3

Output: 21

Explanation:

The goal is to maximize the money saved by both as Ed and 5 projects in total

Sav Ed picks up the last 2 projects and John picks up the first

peder to maxmize the total amount of money saved. Now only

sched Since bott cannot work on the same project anyc

9.Print an integer representing the number of products that must be preserved at negative temperatures.

Constraints

0s numOfProducts ≤ 106

-106 s temperature, $106

OsinumOfProducts

Example

Input:

7

9-38-6-7810

Output:

3

Explanation:

The products that must be preserved at negative temperatures are at indices (134 [-3-6-71

So, the output is 3

10.Evaluate a Given Infix Expression

In Infix expressions, operators are written between their operands

An expression such as A (B+C)/D is usually taken to mean something like

1. Add B and C together

2. Multiply the result by A

3. Divide by D to get the final answer

Write a program that takes input as a string containing an infix expression and netums the evaluated infix expression.

Note:

1. The string contains operators (+/"), parenthesis and operants (digits)

2. Each digit is a separate operand.

3. The division operator performs integer

division 4. It is guaranteed that division by zero will never occur during the evaluation

The operator precedence is as follows:

1. [ divide(/) and multiply(") operator]> [addition() and subtraction-perator]

2. If you encounter operators with same pecedence like (divide and multipyorsan subtraction), then evaluate the operators from left to right

Input Specification:

input1: a string that contains the infix expression

The money they save by working on various projects. Bot

certain amount of work each day and they make sure to do all the proj

Your task is to find and return the total amount of money saved by them

Note: Both Ed and John cannot work on the same project

Input Specification:

input1: An integer value denoting the total number of projects

input2: An integer array representing the money saved by Ed on each project

input3: An integer array representing the money saved by John on each proje

input4: An integer value denoting the maximum projects that can be taken up Ed.

input5: An integer value denoting the maximum projects that can be taken up John.

Output Specification:

Return the total amount saved by both Ed and John.

Example 1:

input1: 5

input2: {1, 2, 3, 4, 5}

input3: (5, 4, 3, 2, 13

input4: 3

input5: 3

Output: 21

Reverse Characters in a String

Write a function to reverse all the characters of each word in an input string Le input, capitalize only the first letter of each word and return the output string.

Input Specification:

input1: An input string

Output Specification:

Return a string with the characters of each word in the reverse order and the first letter of each word capitalized.

Example 1:

Input1: Hello world

Output: Otleh Dirow

Explanation:

The reverse of the word "Hello" with its first letter capitalised is "Olleh" and similarly for the word "world", it is "Dirow". Hence the output string returned is Olleh Dirow.

Arithmetic Progression

Given the second and the third terms of an AP (-10a2, a3 <= 10), find then (1 n 1000) term of the sequence.

Input Specification:

input: Second element of series (Integer).

Input2: Third element of series (Integer).

input3: Total number of elements in the series (Integer).

Output Specification:

Return the nth element of the series.

Example 1:

input1: 1

input2: 2

input3: 4

Output: 3

Cryptic tree

Sherlock received a strange case that had an interesting twist The murderer had placed the victim's body on the top of a tree. The tree was a special one with its roots at the top and leaves at the bottom. As any crime is not perfect, this murderer had left a series of clues in the leaves and the nodes of the tree. The clues were a series of numbers present at the leaves and nodes starting from the bottommost leaves and moving up one by one and Sherlock has to find them and crack them in order to solve the crime. You have to help Sherlock crack the puzzle

You are given the set of numbers, but in two of the following different ways:

1. Such that the root is between its children

2. Such that the roof is before its children

Input Specification:

input1: The number array representing the values in the 1 st way

input2: The number array representing the values in the 2 nd way

input3: Size of the array

Note: In the case where the body is not on the tree, the tree can be empty too.

Output Specification:

The array giving the correct sequencer numbers as desired for solving the puzzle.

Example 1:

input1: (4,2,5,1,3)

input2: (1,2,4,5,3)

input3: 5

Output: (4,5,2,3,1}

Pick the Points

There are many sets of points on the horizontal axis of a co-ordinate plane. If a point is plotted in between any set, that set is reduced to that point. Given X sets, find the minimum number of points one should pick to reduce all the points to minimum number of points.

Input Specification:

input1: X, number of sets.

input2: Array consisting of X pairs, each pair indicating start and end of a set.

Output Specification:

Return an integer number as per the question.

Example 1:

input1: 3

input2: {{1,3},{2,5),(3,6}}

Output: 1

01. Minimum memory required.

Problem statement

Implement the following functions int Minmemory(int arr[], int n);

The function accepts a positive integer array 'arr of size 'r as its argument. Each

function to find the minimum size of memory card required to store all the abos and video the

negative integer.

Return -1 If 'arr' is null (None, in case of Python).

Note:

Computed values lie within integer range.

Example:

Input:

агт: 41 67 70 55 53 23 69

Output:

512

Explanation:

Sum of audios and videos 41+67+70+55 +53 +23+69375. Since, memory cards are

The custom input format for the above case:

7

41 67 70 55 53 23 69

(The first line represents the size of the array, the second line represents the elements of the an

Sample Input

arr: 4 35 4 9

Sample Output

64

The custos input format for the above case:

4

4 35 49

Output:

512

Explanation:

Sum of audios and videos 4167+70+55 +51+23+65-376. Since,

The custom input format for the above case:

7

41 67 70 55 53 23 69

(The first line represents the size of the array, the second line represents the elements of the

Food Stalls

Robin goes to a food festival along with N-1 friends. Robin is labeled as 1 and his trends are labeled from 2 to N. Each of them has a set of colored coupons. The food testival has M food stalls numbered from 1 to M. Every food stall accepts particular color coupons only

There are 10 different color coupons represented by numbers ranging from 1 to 10. You are given certain number of queries Q. Find the sum of the outputs of all the queries

Input Specification:

input1: N, Iotal size of the group of friends including Robin

input2: M, number of stalls

input3: A two dimensional array of size M 10, where cell(i, j) = 1 denotes that stalli accepts coupon j

Input4: A two dimensional array of size N 10, where cell(i, j) = 1 denotes that person i has couponj

Input5: Q, number of queries

input6: A two dimensional array of size Q2, containing sets for which the query has to be answered. For each row [i, j], if person i

con ostat ciall than cutout of the man is tales ordrest is n

One day while Sita was walking on the road, she realized that her life was boring. Everything was grey, even the roads in the best park were grey.

Therefore she decided to make roads a little bit brighter. She knows that every road in the park is a segment laying on the X-axis with coordinates X, X, (X₁ ≤ X,). Roads may intersect or overlap.

She chooses any subset of roads and paints them in red. After that, she wants to get one continuous red segment. As she really likes number L the length of this segment has to be equal to L.

Your task is to determine whether it is possible to choose some subset of roads and paint them to get one red segment with the length equal to L?

Print "Yes" (without quotes) if it's possible, else print "No" (without quotes).

Input format:

The first line contains one integer T - the number of test cases. Each test case starts with two integers N and L, denoting the number of roads and Sita's favorite number L. The next N lines contain two integers X, X, denoting the left and right borders of the road.

Output format:

For every test case output "Yes" if it is possible to paint some roads and "No" otherwise.

Constraints:

15 sum of all N <= 2 + 10 ^ 3

1 <= L <= 10 ^ 6

1 <= chi\_{i} <= chi\_{i} <= 10 ^ 5

1 <= N <= 20 1 <= chi <= chi\_{r} <= 200 holds for test cases worth 10% of the problem's score.

1 <= N <= 300 1 <= chi\_{i} <= chi\_{r} <= 200 holds for test cases worth 20% of the problem's score.

Sample Explanation:

In the first test case you can choose roads (1; 2) (2; 3) and (3; 4) the result segment is (1; 4) and its length equals 3 (4-1-3).

In the second case, you can not choose any subset that will create a segment with a length equal to 4.

Reducing Dishes

Monica has cooked N dishes and collected the data on the level of satisfaction for all the dishes from a guest. The guest returns an array, where the ith element of the array is the liking level of the ith dish. Also, the time taken to cook the ith dish is i.

Like-to-time coefficient of a dish is calculated by multiplying the time taken to cook food with its liking level, i.e., i\*input2[i]. Total Like-to-time coefficient is calculated by summing up all individual coefficients of dishes.

You want the total Like-to-time coefficient to be maximum. You can also remove some dishes, in which case, a new coefficient is calculated using the left dishes.

Input Specification:

input: N, number of dishes

input2: Array representing the liking value of each dish

Output Specification:

Return maximum like-to-time coefficient possible

Example 1:

input1: 3

input2: (-1,3,4)

Output: 17

Explanation:

She should not cancel cooking the first dish, since total coefficient without canceling equals 1(-1)+2(3)+3(4) =17.

If she would have canceled cooking the first dish, the coefficient would be 1(3)+2(4) = 11.

Hence, she should cook aft 3 dishes for maximum like-to-time coefficient possible.

**Example 1:**

**input1: 8 + (7 - 9) deg \* 2**

**Output: 4**

**Explanation:**

**=> 8+(7-9)\*2 => 8 + (- 2) ^ 2 => 8-4**

**=>4**

**Example 2:**

**input1: 10 + 2 deg \* 6**

**Output: 22**

**Q}**

**working on N projects (numbered 0 to N-1). Each week he/she can work on a single module of one of the projects. The modules that are chosen on any two successive weeks should come from different projects. A project i can have at most i modules. The modules of the projects are such that a module is completed in a week.**

**Write an algorithm to determine the number of weeks the employee can work on projects following the above-mentioned rules.**

**Input**

**The first line of the input consists of an integer - num, representing the number of projects (N).**

**The next line consists of N space-separated integers - projCO, projC1,.., projCN- 1, representing the number of modules of the**

**projects.**

**Output**

**Print an integer representing the maximum number of weeks the employee can work on the projects.**

**Example**

**Input**

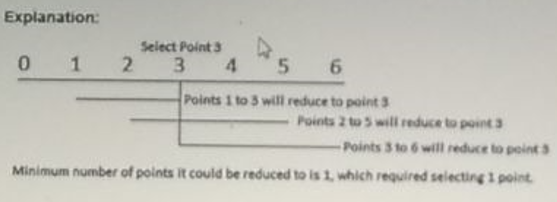
**3**

**Given are two integers m, n (1 <= m <= n <= 10^9, nm <= 10^5). You have to report the number of prime numbers within the interval [m, n). First line of the input contains an integer T, denoting the test cases you have to handle. T lines follow each one with two integers m, n as stated each one with two integers m, n as stated above. For each test case, output a single line, containing the requested report.**

**Input1: 3**

**Input2 : {{1,3},{2,5},{3,6}}**

**Output : 1**

****

**Q)**

**Input1:5**

**input2: (1,2,3,4,5)**

**Output: 15**

**Explanation:**

**As all the questions already have distinct marks, he can set the paper as it is with minimum marks as 1+2+3+4+5= 15.**

**Example 2:**

**input1: 5**

**input2: {1,4,5,4,5}**

**Output: 23**

**Explanation:**

**Here, the question 1 would have at least 1 mark, question 2 would have at least 4 marks, question 3 would have at least 5 marks, so the new set of marks will have to be {1,4,5,6,7), such that all the conditions are satisfied.**

**Q)** **input1: 5**

**input2: (2, 4, 6, 8, 10)**

**Output: 12**

**Explanation:**

**As the above series is an Arithmetic Progression, hence, the 6th term will be 12. Therefore, 12 will be returned as the output.**

**Mr. Myers and the Exam**

**A mathematics question paper has certain number of questions and each question is assigned some random maximum marks. Mr. Myers wants to edit the marks assigned to the questions such that**

**input**

**1. All questions in the paper should have distinct maximum marks.**

**input**

**2. The total marks of all the questions should be as low as possible.**

**Mr. Myers wants to achieve this by making minimal changes in the original format, assigning the question at least as much marks as it originally had. Find the minimum total marks that he can set the paper for.**

**Input Specification:**

**input1: The number of questions in the paper**

**input2: The array representing the original marks assigned to every**

**question**

**Output Specification:**

**The minimum total marks Mr. Myers can set the paper for.**

**Series Problem**

**A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series if is, and then find out the next number in that series**

**Note: If you are not able to get an output, retum -999**

**Input Specification:**

**input1: An integer value N denoting the length of the array**

**input2: An integer array denoting the values of the series**

**Output Specification:**

**Return the next element of the series**

**Given an integer, say N. You need to find the following:**

**1. The number of set bits (bits that are 1 in the bitwise representation) in N**

**2. The position of the least significant set bit**

**3. The position of the most significant set bit**

**The output retumed should be a string of the form: allbillc, where a, b, c are answers for the above three queries respectively.**

**Input Specification:**

**input1: N. denoting an Integer value**

**Output Specification:**

**Return a string of the form: af#b#c, where a, b, c are the total number of set bit (i.e. 1), least significant position of set bit, and most significant position of the set bit in the bitwise representation of N**

**Example 1:**

**input1: 10**

**Output: 2#1#3**

**Question**

**Street Lights**

**One of the streets in your city has a total of L. street lights. Each light i covers the street from Xi to Yi distarice. Find the length of street covered with light**

**Input Specification:**

**Input: L. denoting the number of street lights.**

**Input2: An array of L2 elements For each row i, (XI, Yi) denote that the street light i covers the distance from Xi to Y**

**Output Specification:**

**Your function should retum the length of the street covered with light.**

**Example 1:**

**Input1: 1. Input2: ((5,10))**

**Output: 5**

**Explanation:**

**Street Light 1:10-55 units covered.**

**Reverse Characters in a String**

**Language P**

**Write a function to reverse all the characters of each word in an input string ie input1, capitalize only the first letter of each word and return the output string.**

**Input Specification:**

**input1. An input string**

**Output Specification:**

**Return a string with the characters of each word in the reverse order and the first letter of each word capitalized**

**Example 1:**

**input1: Hello world**

**Documents**

**The United Nations Organization released an official document regarding the important events from the beginning of time (dated 00-00-0000 the events. The date of all the events is mentioned in the DD-YYYY**

**Find the total number of distinct years referenced in the document**

**Input Specification:**

**input1: String containing the content of the document**

**Output Specification:**

**Return the total number of distinct years referenced in the documen**

**Example 1:**

**input1: UN was established on 24-10-1945. India got freedom 1505967**

**Output: 2**

**Explanation:**

**2 distinct years, 1945 and 1947 have been referenced**

**Street Lights**

**One of the streets in your city has a total of L street lights. Each light i covers the street from Xi to Yi distance, Find the length of street covered with light**

**Input Specification:**

**input1: L, denoting the number of street lights. input2: An array of L2 elements. For each row 1, (X, Y) denote that the street light i covers the distance from Xl to Y**

**Output Specification:**

**Example 1:**

**Your function should return the length of the street covered with light**

**input1: 1,**

**input2: {{5,10)}**

**Output: 5**

**10-5-5 units covered**

**Food Stalls**

**Robin goes to a food festival along with N-1 friends. Robin is labeled as 1 and his friends are labeled from 2 to N. Each of them has a set of colored coupons. The food festival has M food stalls numbered from 1 to M. Every food stall accepts particular color coupons only.**

**There are 10 different color coupons represented by numbers ranging from 1 to 10. You are given certain number of queries Q. Find the sum of the outputs of all the queries.**

**Input Specification:**

**input1: N, total size of the group of friends including Robin**

**Input2: M, number of stalls**

**input3: A two dimensional array of size M 10, where cell(i, j) = 1 denotes that stall i accepts coupon j**

**Input4: A two dimensional array of size N 10, where cell(i, 1) = 1 denotes that person i has coupon j**

**input5: Q. number of queries**

**input6: A two dimensional array of size Q2, containing sets for which the query has to be answered. For each row [i, j], if person i can eat at stall j, then output of the query is 1 else output is 0**

**Output Specification:**

**Your function should return the sum of the output of all the queries.**

**Example 1:**

**Input1: 1**

**input2: 1**

**Input3: ({1,0,0,0,0,0,0,0,0,0))**

**Write a program that takes an integer M, and M strings as input (one per line). For each inputted string, the program finds the length of the longest substring that is a palindrome. There may be more than one substring that are palindromes and are of longest length, but your program needs to print only the length of the longest substring. Note that palindromes are not case-sensitive**

**stuck while solving a problem on strings. He is given a string. He has to return the smallest lexicographic subsequence, which contains each character of the given string at most once. Can you help him in solving this?**

**A subsequence of a given string is generated by eliminating some characters of the given string without changing its order. For example suppose that the string is "abc", some of its possible subsequences are "ac", "ab", "abc".**

**Example 1:**

**Input:**

**dcbaabcd**

**Output:**

**Abcd**

**Charles and the Necklace**

**Charles wants to buy a necklace in which:**

**1. There is a minimum of 1 pearl and maximum of X pearls, such that each pearl has its own magnificent coefficient.**

**2. The pearls should be in non-decreasing order of their magnificence power.**

**You are given the maximum number of pearls in a necklace and the range of the magnificent coefficients of the pearls. Find the number of necklaces that can be made that follow the mentioned conditions.**

**Input Specification:**

**input1: Maximum number of pearls that can be used to form the necklace**

….……………………………………………………………………………………………………………………………………………..

CODING

1.Question:

Reverse Characters in a String

Write a function to reverse all the characters of each word in an input string le input capitalize only the first letter of each word and return the output string

Input Specification:

input1: An input string

Output Specification:

Return a string with the characters of each word in the reverse order and the first letter of each word capitalized.

Example 1:

input1: Hello world

Output: Olleh Dirow

Explanation:

The reverse of the word "Hello" with its first letter capitalised is "Oleh” and word "world", it is "Dirow". Hence the output string returned is Olleh Drow.

2. Question:

Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, return '-999

Input Specification:

Input1: An integer value N denoting the length of the array

input2: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1:

Input1: 5

input2: (1, 1, 2, 3, 5)

Output: 8

3.Question

Coding Marathon

N number of people participated in a coding marathon where they were anked to solve some problems. Each problem

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

inputt: N. Total number of participants

input: K, Tap scorers

input: An array of length N with the scores of all N participants

Output Specification:

Return S, sum of the marks of top K scorers from the list

Example 1:

Input1: 4

Input2: 2

Input3: (4,1,2,5)

Output:9

Explanation:

Top 2 scores are 5 and 4. Sum 5+4-9

Example 2:

input1:4

input2: 3

input3: (4,3,6,1)

Output: 13

Explanation:

Top 3 scores are 5, 4 and 3. Sum 6+4+3=13

3.How to attempt? Question:

Minimum Steps

You are currently at cell (1, 1) of an NM grid. There is a rule that decides how you can move in the grid to reach the position (N, M) The rule is, that if you are at cell (x, y) then from there you can either move to cell (x, x + y) or to cell (x + y, y) in one step.

Your task is to find the minimum number of steps that you must take to reach cell (N, M) starting from current position i.e. (1, 1)

Note: If it is not possible to reach (N, M) from (1, 1), then retum -1 as your output

Input Specification:

input1: An integer value representing the value of N where 1 <= N

input2: An integer value representing the value of M where M < 106

Output Specification:

Return the minimum number of steps.

Example 1:

Input1: 3

input2: 2

4.Coding Marathon

N number of people participated in a coding marathon where they were anked to solve some problems. Each problem carried 1 mark and at the end of the marathon, the total marks that each penson achieved was calculated.

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

Input1: N. Total number of participants

input: K, Tap scorers

input: An array of length N with the scores of all N participants

Output Specification:

Return 5, sum of the marks of top K scorers from the list

Example 1:

Input1: 4

Input2: 2

Input3: (4,1,2,5)

Top 2 scores are 5 and 4. Sum 5+49

Example 2:

input1:4

input2: 3

input3: (4,3,6,1)

Output: 13

Explanation:

Top 3 scores are 5, 4 and 3. Sum 6+4+3=13

5. ALT-TAB Window While using a computer, a user uses the ALT-TAB key to switch between applicat The ALT-TAB window works on the principle of holding the ALT key for MRU (Mc Recently Used)listing. Hence, the applications arrange themselves in such a way the most recently used application will be the first item in the ALT-TAB window a forth. You are given the list of opened applications and the number of times that the us presses the 'Tab key' to switch between applications. Find the final arrangement applications in the ALT-TAB window. Example: In the given picture, Libraries application is focused, which means that holding the key, the user presses the Tab key twice. Internet Explorer being the most recently application followed by Libraries and so on

Input Specification: input1: N, denoting the number applications currently opened on the system

input2: K, denoting the number of times user presses Tab key holding the ALT key

input3: An array containing a list of items numbered from 1 to N.

Output Specification: Your function should return the array containing applications in new configuration after K switches. Example 1:

input1: 4

input2: 3

input3: {1,2,3,4}

Output: {3,1,2,4}

Explanation: 4 applications are open. Holding the ALT key, the user presses TAB key 3 times. This pops up application number 3 . Hence, 3 is the most active application in the ALT-TAB panel.

Example 2:

input1: 10

input2: 7

input3: {4,1,3,7,6,8,5,2,10,9}

Output: {5,4,1,3,7,6,8,2,10,9}

Explanation: 10 applications are open. Holding the ALT key, the user presses TAB key 7 times. This pops up application number 5 . Hence, 5 is the most active application in the ALT-TAB panel.

6.Wedding Game

In a wedding that you are attending, there are some chairs that have digits inscribed at their backs. The chairs are lined in a row such that they form a string of the digits. Find the minimum number of sets M that can be formed from these digits such that:

1. The number of digits in each set is one or more than one.

2. Each set is formed using consecutive digits and no digit can be used more than once.

3. In each set, the number formed using the digits is less than or equal to Y.

Input Specification:

input1: S, string of digits

input2: Y, No number should be greater than Y

input3: Size of the String S

Output Specification:

Your function should return M, the minimum number of sets

Example 1:

input1: "1234"

input2: 4

input3: 4

Output : 4

7.Monica has cooked N dishes and collected the data on the level of satisfaction for all the dishes from a guest. The guest returns an array, where the ih element of the array is the liking level of the ith dish. Also, the time taken to cook the ith dish is i

Like-to-time coefficient of a dish is calculated by multiplying the time taken to cook food v Its liking level, le., i"input2[i]. Total Like-to-time coefficient is calculated by summing up a individual coefficients of dishes.

You want the total Like-to-time coefficient to be maximum. You can also remove some dishes, in which case, a new coefficient is calculated using the left dishes.

Find the maximum sum of all possible Like-to-time coefficients.

Input Specification:

input1: N, number of dishes

input2: Array representing the liking value of each dish

Output Specification:

Return maximum like-to-time coefficient possible

Example 1:

input1: 3

input2: {-1,3,4}

Output: 17

8.Cryptic tree

Sherlock received a strange case that had an interesting twist. The murdes victen's body on the top of a tree. The tree was a special one with its roots

leaves at the bottom. As any crime is not perfect, this murderer had left the leaves and the nodes of the tree. The clues were a series of numbers pa leaves and nodes starting from the bottomnost leaves and moving up one b Sherlock has to find them and crack them in order to solve the crime. You ha Sherlock crack the puzzle

You are given the set of numbers, but in two of the following different ways

1. Such that the root is between its children

2. Such that the root is before its children

Input Specification:

Input1: The number array representing the values in the 1 way

Input2: The number array representing the values in the 2 way

input3: Size of the array

Note: In the case where the body is not on the tree, the tree can be empty too

Output Specification:

The array giving the correct sequence of numbers as desired for solving the puzzle

Example 1

Example 1:

Input1: {4,2,5,1,3}

Input2: {1,2,4,5,3}

input3: 5

Output: {4,5,2,3,1}

Explanation

The traversal according to the question

{4,5,2,3,1}

Example 2

inputt: {2,3,5,1,6}

Input2: (1,3,2,5,6}

Input: 5

Output: {2,5, 3,6,1}

Explanation:

The traversal according to the question

{2,5, 3,6,1}

9.Workers Dilemma

Two workers, Ed and John are best friends. They work as freelancers and take projects from various companies.

They want to maximize the money they save by working on various projects. Both of them can only do a certain amount of work each day and they make sure to do all the projects given to them.

Your task is to find and return the total amount of money saved by them.

Note: Both Ed and John cannot work on the same project.

Input Specification:

input1: An integer value denoting the total number of projects.

input2: An integer array representing the money saved by Ed on each project.

input3: An integer array representing the money saved by John on each project

input4: An integer value denoting the maximum projects that can be taken up by Ed.

input5: An integer value denoting the maximum projects that can be taken up by John.

Output Specification:

Return the total amount saved by both Ed and John.

Example 1:

input1: 5

input2: {1, 2, 3, 4, 5}

input3: (5, 4, 3, 2, 1}

input4: 3

example 2:

input1: 8

input2: (9133,4829,2641,5516,2857,847,8722,7176}

input3: (4606,2752,3447,6298,2713,9448,2316,4898)

input4: 0

input5: 8

Output: 36478

Explanation: Since Ed cannot take up any project, all the projects will be taken up by John, giving a total profit of 4606+2752+3447+6298+2713+9448+2316+4898 = 36478. Therefore, 36478 is returned as the output

10.Max Contiguous Sequences

Given an array of N integers, determine all contiguous subsequences of positive numbers. Then write a function to find the sum of elements in each sub-sequence and output the maximum sum value.

Input Specification:

input1: An integer N denoting length of array

input2: An integer array of length N (-10000<= A[i] <= 10000)

Output Specification:

Return the maximum sum of contiguous sub-sequence of numbers

Example 1:

input1: 5

input2: {1,2,4,-2,3)

Output: 7

Explanation:

Contiguous sub-sequences of positive numbers in the given array are: {1,2,4) and (3). Their respective sums are 7 and 3. Hence, the maximum value between the two i.e., 7 is

returned as the output.

11. Pick the Points

There are many sets of points on the horizontal axis of a co-ordinate plane. If a point is plotted in between any set, that set is reduced to that point. Given X sets, find the minimum number of points one should pick to reduce all the points to minimum number of points.

Input Specification:

input1: X. ﻿number of sets.

input2: Array consisting of X pairs, each pair indicating start and end of a set.

Output Specification:

Return an integer number as per the question.

Example 1:

input1: 3

input2: ((1.3) (2.5).(3.6))

Output: 1

Example 2:

input 1:3

input2: ((1.3). (2.5).(6.9))

Output: 2

12.Interns

A company has hired N interns, labeled from 1 to N. Each intern is given a device which generates a number everyday that will be used as a password for their authentication at the office door every day in the morning. The internship is for 50 days numbered from 0 to 49. Initially (on the 1st day), the number in the device of the kth intern will be equal to (5000k).

From the 2nd day (i.e., i=1), a new number will be generated every day in each device in the following way:

Day(i) Day(i-1) +5000+1

Find the label of an intern from the given password used by him/her.

Input Specification:

input1: N. number of interns

input2: P, password used

Example 1:

Input: 2

input2: 5000

Output: 1

Explanation: 5000 is the number of the first intern on day 0.

Example 2:

input1: 10

input2: 25003

Output: 3

Explanation: 15000 Is the number of the third intern on day 0 .20001 is the number of the third intern on day 1 25003 is the number of third intern on day 2

13. Matt and the gift

Matt likes cooking. But more than that, he likes to give gifts, And now he wants to give his girlfriend an unforgettable gift. But unfortunately he idrgot the password to the safe where the money he saved for the gift is kept.

But he knows how to hack the safe. To do this, you need to correctly answer questions asked by the embedded computer. The computer is very strange, and asks sperial questions, sometimes it can ask about 10000 question (really weird). Because of this, Matt wants you to write a program that will help him to crack the safe

The questions are different, but there is only one type of question. Several numbers are given and between them one of three characters:,, can be inserted. Note that in this case there is no priority for the operators, that is, if is the before multiplication, you must first execute the operation of addition, and then multiplication (1-23 must be interpreted as (1-2)\* 3-3 and not -5). The computer asks the minimum possible value of any valid expression.

Input:

The first line of the input contains an integer T denoting the number of test cases. The first line of each test case contains a positive integer N. The second line contains N space separated integers A1, A2, AN denoting the expression without the operators.

Output:

For each test case, output a single line containing the minimal value of given expression.

Constraints:

1<=T<=10^5

1<=N≤10

-9<=A[i]<=9

Sample Input

2

3

1 2 3

1

9

Sample output

-4

9

Case 1:1-2-3=-4

14.Regions on a Plane

Mr. Professor is a great scientist, but he is not able to find a solution to one problem. There are N straight lines that are not parallel, and no three lines go through the same point. The lines divide the plane into M regions. Write a function to find out the maximum number of such regions he can get on the plane.

Input Specification:

inputt: An integer N representing the number of straight lines (0 <= N <= 100)

Output Specification:

Retum the maximum number of regions

Example 1:

input1: 2

Output: 4

Explanation:

Given the above scenario, 2 lines divide the plane into 4 regions. Therfore, 4 is returned as output

Example 2:

input1: 3

Output: 7

Explanation:

Given the above scenario, 3 lines divide the plane into 7 regions. Therefore, 7 is retumed as the output.

15.Network

In a particular social network friends are automatically allocated to users by the system and users cannot add friends of their choice on their own. There are currently N users on the social network, labeled from 2 to N + 1

For every ith user (where i ranges from 2 to N + 1), the system allocated at the users labeled with multiples of i as the user's friends (if possible)

One day, all users of the social network come together for a meeting and torm groups such that each person in a group is a direct friend or a friend of thend of every other person of that group.

Find the total number of groups.

Input Specification:

input1: N, denoting the number of users on the social network

Output Specification:

Your function should return the number of groups that can be formed on the given conditions

Example 1:

input1: 5

Output: 2

Explanation:

Two groups will be formed:

2,3,4,6

5

Example 2:

input1: 10

Output: 3

Explanation:

Three groups will be formed: 2, 3, 4, 5, 6, 8, 9, 10

7

11

16.work in case of syntax/runtime error.

The version of Python being used is 2.7.

You are given a list of numbers. Write an algorithm to remove all the duplicate numbers of the list so that the list contains only distinct numbers in the same order as they appear in the input list.

Input

The first line of the input consists of an integer size, representing the number of elements in the list (N).

The second line consists of N space-separated integers arr[0] arr[1] arr[N-1] representing the list of positive integers.

Output

Print space-separated integers representing the distinct elements obtained by removing all the duplicate elernents from the given list

Constraints

D<N<10

-10^6<arr[i]<10^6

O<=i<=N

Example

Input

8

1 1 3 2 1 4 5 4

output

1 3 2 4 5

Explanation

Remove all the duplicate elements from the list

i.e.1 and 4

The final list is {1,3,2,4,5)

17.Sam wants to travel from city PQR to city XYZ. But to prevent the spread of COVID-19 and to Maintain a Healthy Environment, government have levied entry tax into the cities from almost all the cities so that the number of people entering the city can be limited. Sam can skip at the most m cities at a time. Sam has to declare his itinerary at the time of leaving city PQR. Thus he will have to pay upfront for entire itinerary and also has to pay a fee to get the slips issued. Upon payment he will be given the slips for intermediate cities where he has to show the slips to pass through, enroute to his destination.

Some cities have enforced lockdown due to COVID-19 pandemic, that means those cities have blocked the entry into the cities and you will have to skip the cities in any case, such cities are represented by -1. This information is known to Sam upfront

Help Sam find the minimum amount to be paid to reach from city PQR to city XYZ.

Constraints

No of cities <=10^5

Input

First line contains an integer N, denoting the number of cities

Second line contains N space separated integers, where first integer denotes the cost of issuing itinerary slips and next y reegers denote the entry fee of all cities. The last integer is always the destination city. If city is under lock down then its entry fee will be-1. Third line contains an integer, M which represents number of cities he can skip from a present city during his travel

Output

Single integer which represents the minimum cost Sam has to pay to travel from city PQR to city XYZ, but if city XYZ is not reachable then print-1

Example 1:

Input:

5

1 6 -1 5 7

1

Output:

19

Since he could skip only 1 city between the cities. He will have to pay 1-6-5-7, where 1 is the fees paid to issue sign and 1.57 are the f paid for the entry to the respective cities. So the total amount he has to pay while leaving city POR is 19

1 Note: The main class name must be "Solution".

Bob has to send a secret code 5 to his boss. He designs a method to encrypt the code using two key values N and M. The formule that he uses to develop the encrypted code is shown below:

(S^N %10)^M)1000000007)

Write an algorithin to help Bob encrypt the code.

Input

The Input consists of an integer secvecade

representing the secret code S The second line consists of an integer firsttes representing the first key value() The third line consists of an integer secondkey, representing the second key wal (0

Output

Print an integer representing these encrypted by Beb

Constraints

1<= secretCodes <=10^9

0 <= firstkey, secondkey's<= 1000000007

Example

Input

2

3

4

Output: 4096

Explanation: S-2, N-3M-4ard the formula of the encrypted codes (SN 10/100000000 0123 % 100% 10000 So, the output is 4096

Problem Statement

The country Khaled lives in is represented as a directed acyclic graph (DAG) of N nodes numbered from 1 to N. There is a path from city X to city Y if and only if:

X < Y

Y is not divisible by X.

The length of that path is the range XOR ( A[X] ,...A[Y]) Here, XOR denotes the bitwise XOR operator.

For example, if A = [5, 4, 3, 2, 1] there is a directed path from node 2 to node 5 since (2 <5) and (5 is not divisible by 2). The length of that path equals (A[2] XOR A[3] XOR A[4] XOR A[5]) which equals(4 XOR 3 XOR 2 XOR 1) which equals 4.

Khaled is located in city 2 and he wants to go to city N. Your task is to find the length of the shortest path from city 2 to city N.

Input Format

The first line contains an integer. N. denoting the number of cities in the country. Each line i of the N subsequent lines (where 1 <= 0 <= N\_{1} contains an integer describing AL

**Problem statement**

Wael gave Kaito an array A of length N, and Q queries, each query consists of two integers, L and R. For each query, le each pair (L, R)

Consider only the consecutive sub-array A[L] A[L + 1] , A[R - 1] A[R]

You can partition this array into multiple sub-sequences (not necessarily consisting of consecutive elements).

For each query, your task is to find the minimum required number of partitions such that every resulting sub-sequence is GOOD.

A sequence of integers is GOOD if and only if the following rule holds true for the sequence:

If the sequence has length X, then no element occurs strictly more than ceil(X/2) times in it

Your task is to print only one integer representing the multiplication of all answers for all queries modulo 10 ^ 9 + 7

Note:

• A sequence b is a sub-sequence of an array a if b can be obtained from a by deletion. Some. Ipossibly.zecol elements.

Andy has created a term called "FPAL" for describing a string.

A string is called FPAL according to Andy if it doesn't contain a palindrome with a length greater than 1 as a substring.

For example: The string representation of the number 4579 is an FPAL whereas the string representation of the number 15668 is not an FPAL because it contains the palindrome 66.

Your task is to calculate the total number of FPAL numbers in a given range.

**Input format**

(The first line represents 'k', the second line represents 'n', the third line represents the elements of the array 'arr')

Sample Input

k: 1

arr: 6574

Sample Output

8

The custom input format for the above case:

1

4

6572

(The first line represents 'k', the second line represents 'n', the third line represents the elements of the array 'arr')

**Instructions:**

This is a template based question, DO NOT write the "main" function.

Your code is judged by an automated system, do not write any additional welcome/greeting messages.

"Save and Test" only checks for basic test cases, more rigorous cases will be used to judge your code while scoring.

Additional score will be given for writing optimized code both in terms of memory and execution time.

**Now let's start coding:**

1 int Mystical Array(int k, int arr[], int n);

2 int main()

3 {

//Input read from STDIN

Output Specification:

Your function should return the total number of trees in the field.

Example 1:

input1: 1

input2: 5

output: 3

Explanation: After cutting the tree with value 2, you have to plant (2+1)%5=3 trees from 0 to 2

Final field view: (0, 1, 2).

Example 2:

input1: 1

input2: 2

output: 1

Explanation: After cutting the tree with value 2, you have to plant (2+1)%2=1 trees from 0 to 0.

**01. Mystical Array**

Mystical Array: Any array 'arr' of size n which satisfies the condition arr[j] < arr[1+1], where 0<j< (n-1), is called mystical array

Implement the following function:

int MysticalArray(int k, int arr[], int n);

The function accepts a positive integer 'k' and an integer array 'arr' of size 'n' as its argument. To convert the input array to mystical array you can only performs addition operation the Y (any number of times) to any element of array. Implement the function to find and return minimum number of times 'k' needs to be added to input array in order to obtain mystical array

**Note:**

Return -1 if array is null (None, in case of Python).

Array Indexing starts from 0.

Example:

Input:

k: 2

arr: 132534

Output:

5

Explanation:

'2' is added 5 times to obtain mystical array:

1. arr[1]=3> a[2] 2, 2 is added once to arr[2]=2+2-4

2. arr[3]=5> arr[4]3, 2 is added twice to arr[4] 3+2+2-7

3. arr[4]=7> arr[5]4, 2 is added twice to arr[5]4+2+2-8

Thus, output is 5.

**The custom input format for the above case:**

2

6

132534

(The first line represents 'k', the second line represents 'n', the third line represents the elements of the array "arr")

**Question #1**

How to attempt?

Question

**Planting Trees**

In a particular field, there are trees in a single row from left to right. Each tree has a value V. You cut trees from left to right and for each tree of value V that you cut, you plant (V + 1) % M trees on the right most end with values ranging from 0 to ((V+1) % M)-1.

Initially, there was only one tree with value 2. Find the total number of trees present after cutting K trees.

**Input Specification:**

input1: K, denoting the number of trees that are cut.

input2: M, denoting the modulus value.

**Output Specification:**

Your function should return the total number of trees in the field.

Example 1:

QUESTION

problem again, you can use priming0 debug your code. The printf() may not work in case of syntax/runtime error.

The version of GCC being used is 5.5.0.

An e-commerce company plans to give their customers a discount for the New Years holiday. The discount will be calculated on the basis of the bill amount of the order placed. The discount amount is the sum of all the odd digits in the customer's total bill amount. If no odd digit is present in the bill amount, then the discount will be zero.

Write an algorithm to find the discount for the given total bill amount.

**Input**

The input consists of an integer billAmount, representing the customer's total bill amount.

**Output**

Print an integer representing the discount for the given total bill amount.

**Constraints**

0 < billAmounts <=10^9

Example

Accept total number of participants (P) in class. A group of four divisions has to be created from registered participants. The limit for registration is 200

if total number of participants registered is even number then, criteria for group division are that each group should have equal number of participants. And total number of participants in each group should be an even number.

For example, if P = 104 then Group A = 26 Group B = 26 Group C = 26 and Group D = 26

If total number of participants is odd number then, criteria for group division is that take the nearest multiple of 4 less than P and perform four equal divisions and then the left out participants are added in Group 'D'.

For example, If P = 127 then Group A = 31 Group B = 31 Group C = 31 and Group D = 34

Group D is 34 because 31 participants plus left out 3 participants are added in this group. Display report on total number of participants

Group-C and Group-D respectively

**Constraints:**

Total number of participants 'P', 100P<=200 Note If number of participants entered by user is Jess than 100 or greater than 200, display "INVALID INPUT" and quit

**Examples:**

**Example -1:**

Input:

104 →Value of P

Output:

26 = Participants of Group A

26 = Participants of Group B

26 = Participants of Group C

26 = Participants of Group D

Example - 2:

Input

127 = Value of P

Display report on total number of participants in each group. Also display when input invalid

Instructions:

System doesn't allow any value/ of hard coded input values except floor beam distance value. Written program code by candidate will be verified against the inputs which are supplied from the system.

For more clarification, please read below points carefully till the end.

**Input format for testing:**

Written program code should accept single integer value denoting total number of participants P 20

**Output format for testing:**

Written program code should generate four integer value separated by new line representing total number of participants of Group-A, Group-B, Group-C and Group-D respectively.

**Constraints**:

Total number of participants P. 100<=P<=200

printf("B=%d\n",p);

printf("C=%d\n",p);

printf("D=%d\n",p);

}

else

{

printf("A=%d\n",p);

printf("B=%d\n",p);

printf("C=%d\n",p);

int c=n%4;

int d=c+p;

printf("D=%d\n",d);

}

}

else

{

printf("INVALID NUMBER");

}

return 0;

}

**Answer:**

#include<stdio.h>

int main()

{

int i,n;

printf("enter the value of the n");

scanf("%d",&n);

if(n>=100 && n<=200)

{

int p=n/4;

if(n%2==0)

{

printf("A=%d\n",p);

printf("B=%d\n",p);

printf("C=%d\n",p);

printf("D=%d\n",p);

}

else

{

printf("A=%d\n",p);

**4. What will be increase in the volume of the cuboid, if the length, breadth and height of the cuboid are in the ratio 1:2:37 And also length, breadth and height of the cuboids are increased by 200%, 200% and 200%, respectively.**

5 times

6 times

12 times

26 times

**What is the output of following program?**

#include int main() { char a,b,c; a = 'A'; b = 'c'; c = 'C; b=cx=b; a=c;c=a; printf("A%CB%CC%c",c,b,a); return 0; }

ACBCCC

ACBCCA

AABCCC

ACBCCB

**What is the output of following program?**

**#include int main() { int a[5] = {4, 1, 35, 20, 25}; int i, j, m,n; i = ++a[1]; j = a[0]++; m = a[i++]; n = a[j--]; printf("%d,%d,%d,%d", i, j, m,n); return 0; }**

2, 3, 20,35

1, 2, 20,4

2, 1, 15,25

3, 3, 35, 25

**From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. I how many ways can it be done?**

None of these

564

645

735

754

**In AWS, which of these network services is provided?**

Load balancing

Endpoints defined in csdef/cscfg

Balancing

Virtual Private Cloud

**In AWS, which of these services can trigger a lambda?**

CloudWatch

AWS Cloud-HSM

DynamoDB

None of these

**Note**: The main class name must be

"**Solution**".

In a birthday party, the host decides to gift the guest who wins a game in the party, in the game, the host announces an odd number and asks the participants to find all the maximum sized sum free subsets. The participants will then add all the elements of the sum free subsets. A set is a sum free set if no element of the set is the sum of any other two elements in the set. An element can also be considered twice to get the sun. The participant is declared a winner if he/she tells the correct total sum of the elements of all the maximal sized sum free sets. He/she will get number of gifts equal to the total sum.

Write an algorithm to find the maximum number of gifts a participant can win

**Input**

The input consists of an Integer N. representing the odd number announced by the host.

**Output**

Print an integer representing the maximum number of gifts a participant can win

**Constraints**

1≤ N ≤ 105

Note

**Jill was initially standing at position A Following a map, he took 10 steps in the North direction, followed by 10 steps towards his right and finally took 10 more steps towards his right again.**

**With respect to position A, which of the given directions is he facing now?**

Options

North

South

East

West

The following code is used to search for element Y an Array identify this case

1 int Some Function(int arr[], int x) {

2 int 1 = 0, r = arr.length-1;

3 while (1 <= r) {

4 int m1+ (r-1)/2;

5 if (arr[m] == x)

6 return m;

7 if (arr[m] < x)

8 l = m + 1;

9 else

10 r = m -1;

11 }

12 return -1;

13 }

**What is the output of the following code?**

1 a={}

2 a[2]=1

3 a[1]=[2,3,4]

4 print(a[1][])

**Output Format:**

Refer sample output for details.

**Sample Input 1:**

Enter the number of elements in 2 arrays

5

Enter the first array elements

2

3

6

8

1

Enter the second array elements

1

1

1

1

Sample Output 1:

1. Compatible

**Sample Input 2:**

Enter the number of elements in 2 arrays

5

Enter the first array elements

2

3

6

8

1

Enter the second array elements

1

1

1

**COMPATIBLE ARRAYS**

Two arrays are said to be compatible if they are of the same size and if the ith element in the first array is greater than the ith element in the second array for all i.

Write a C program to find whether 2 arrays are compatible or not.

Note:

Refer to the problem requirements.

**Input Format:**

Input consists of 2n+1 integers. The first integer corresponds to 'b', the size of the array. The next 'n' integers correspond to the elements in the first array. The last 'n' integers correspond to the elements in the second array. Assume that the maximum value of n is 15.

**Output Format:**

Refer sample output for details.

**Sample Input 1:**

Enter the number of elements in arrays

5

**Food Stalls**

Robin goes to a food festival along with N-1 friends. Robin is labelled as 1 and his friends are labelled from 2 to N. Each of them has a set of coloured coupons. The food festival has M food stalls numbered from 1 to M. Every food stall accepts particular colour coupons only

There are 10 different color coupons represented by numbers ranging from 1 to 10. You are given certain number of queries Q. Find the sum of the outputs of all the queries,

**Input Specification:**

input1: N, total size of the group of friends including Robin

input2: M, number of stalls

input3: A two dimensional array of size M 10, where cell(i, j) stall i accepts coupon | 1 denotes that

input4: A two dimensional array of size N 10, where cell(i, j) person i has coupon j denotes that

input5: Q, number of queries

input6: A two dimensional array of size Q2, containing sets for which the query has to be answered. For each row [l. [], if person i can eat at stall), then output of the query is 1 else output is 0

**Output Specification:**

Your function should return the sum of the output of all the queries

**Example 1:**

input1: 1

input2: 1

**Explanation**:

• Person 1 has coupons 1 and 4, and stall 1 accepts coupon 1 So, the output of whether person 1 can eat at stal 1 is 1.

**Example 2:**

input1: 1

Input2: 2

Input3: ((1,0,0,1,00,000

input4: ((1,0,0,0.000,00

inputs: 2

inputs: [1, 1) (1.21)

**Output**: 1

**Explanation**:

Person has coupon and stall accepters .coom and A So, the output of whether person can eat at W

Person 1 has coupon and stall 2 accept So, the output of whether person c

**Both the two digit numbers N1 and N9 are prime numbers. If N is not a prime number, find the sum of all the possible values of N1 + N9.**

30

70

40

50

**How many different rectangles can be formed such that the area of each of the rectangles is equal to 160 cm²? (Note: The length and the breadth of the rectangle are natural numbers in cm)**

12

6

8

10

**The sum of three numbers is 14 and the sum of their squares is 100. Find the sum of cubes of those three numbers if their product is 24.**

728

936

733

800

**Description**

Given an array of size N, you need to find, how many subsequences of size M are there in it, such that the deviation of the subsequence is at most K

We define deviation of a subsequence as the difference of the max value of the subsequence with the min value of the subsequence.

Input Format -

The First line of input contains M, the size of subsequence that you will select

The second line of input shall contain K

The third line shall contain a single integer N, denoting the number of values of the array.

Then, N lines follow, where each line contains a single integer denoting the value of the array

**Output Format -**

Print a single integer, denoting the number of subsequences, that you can select, Since the answer can be huge, print it modulo 1,000,000.007

Constraints

1<= N <= 200,000

1<= array values <= N

1<= M <= min(100,N)

**Q01. Find out which part of the sentence below has an error and mark the option accordingly**

**I know that / she is very rich / to care about such / small sums of money.**

Ops: A she is very rich

B. small sums of money

C.I know that

D. to care about such

Q02. In the following sentence, some part or whole sentence is underlined. Below are given for

the answer from the given choices which produces the most effective sentence, one that i

The team management had asked for a substitute wicket-keeper before the first lest at Ad

Prasad's knee injury.

: A. O prior the first test at Adelaide to be held earlier this month

B. O prior to the first test at Adelaide held earlier this month

C. due to the first test at Adelaide held earlier this month

D. before the first test at Adelaide to be held earlier this month

Q03. The sentences given below form a coherent passage when arranged logically.

(1) He was the only son of his parents.

(2) Although they weren't very rich, they lived happily.

(3) Little Sam lived in a small beautiful town of Visby

(4) His tiny house was constructed on the banks of a beautiful mver and was a from

**Find the odd man out:**

5,84,736,6700,67150

67150

None

736

6700

**Best houses**

Alice and Bob are best friends. They are planning to buy one house for each of them.

The available houses for sale are located on land which is divided into NxN plots. The houses are num

from left to right. The coordinates of each house can be represented as which denotes the hous

Of course, each house is not equally good. You are also given an NxN matrix G and Gill denotes the g

Alice and Bob both want good houses but they also don't want to be too far from each other.

Let's define a happiness function, H((a,b), (c,d)) Gabcdcb-d

Now Bob and Alice wonder, what is the maximum value of the function that they can get if they conside such that (a,b)(c,d).

Task

Print the maximum possible value of Hif you consider all pairs of houses

Example

Assumptions

GD=((123) (2361

795211

**Find the missing term:**

954, 752, 871, 963,?

658

969

651

753

**In following question, a paragraph or a sentence has been broken up into different parts. The parts have be scrambled and numbered are given below. Choose the correct order of these**

(1) you can take

(2) you can't take

(3) the boy

(4) the village

(5) out of the village

(6) out of the boy

(7) but

1,7,2,4,3,5,6

1,3,5,7,2,4,6

1,5,2,6,3,7,4

The incomes of X and Y and Z are in the ratio 2: 3: 5 respectively percent is income of Z more than that of x?

50%

25%

120%

150%

**Find the odd man out: 7,-14,28,-56,110,-224**

110

-56

28

-224

**In the below-given pseudocode, identify the data type that should be declared as an integer type without performing any data truncation.**

1 Set gr to zero

2 Set k1 to one

3 While g1 is less than or equal to 20

4 Input the next z

5 Set z=z+ k1

6 Set the d to the z divided by 20

7 Print the z

**Consider the following pseudocode:**

Which of the following options indicate the output of this pseudocode?

FUNCTION PrintSqr

FOR I-1 TO 10 STEP 2 DO

3. Print SQUARE OF, I, 1s, CALCULATE (II)

4 END FOR

END FUNCTION

7 PROGRAM START

8 CALL PrintSqr

STOP

**What will be the output of the below given pseudocode for the user input num1=7?**

1 Input num1

2 initialize pointer to num2

3 num2 address of num1

4 Set Hum3 num2 = num1 multiply pointer to num2 multiply num1 add pointer to num2

5 print num3

Consider the following pseudocode:

What will be the output of this pseudocode if it is executed?

Choose the correct output from the given answers, if the user provides number below pseudocode:

1 Input num1

2 Declare pointer to num2, pointer to num3

3. initialize num2= address of num1

4 initialize num3=num2

5 print num1, num2, num3

What should be the output of the code if user input N as 10?

1 READ N

46234

2 SET a = 0

Ο 362880

3 SET b = 1

Ο 10

Ο 55

4 SET C-1

5 REPEAT

6bb C

7a=a+(b/c)

8cc+1

9 UNTIL C <N

18 Print a

What will be the output of the following program for num = 107

initialize output with zero

2 while (num is greater than 8) (

3 push num on to the stack

4 decrement num

5)

6 while (stack is not empty) {

7 pop the stack and add to the output

8}

9 print output

Consider an array X[10] = {24,2,9,3,7,8,22.16.12,10).

To sort the array in ascending order, quick sort divide and conquer algorithm has been used. The last element of the array is used as the pivot. Select the correct output of each pass of the algorithm.

Choose the best option

Revisit

1(29,37022122

2. (2,3,7,8,9,10.22 12.10.24

3(2.3,7,9,10,12,223

4(2.37,8,9,10.12.16.22.20

1(10,2,8.3.7.8.22.12.20

2. (24,23.789.10.22.12

L

3(2,3,7,8,10,12,10.2224

4(2.371222.2

1 (29,374.22,12,16,2

2. (2.37.88.221210.240

3(2.371222.2

42371012224

Consider the following procedural programming code for functions

O window.Open()

O penWindow(window)

Close Window(window)

LockWindow(window)

UnlockWindow(window)

window Close() window. Lock() window Unlock()

Open(window) Close(window) Lock(window) Unlock(window)

What will be the object-oriented pseudocode for the method window be like?

Open window() Close = window() Lock = window() Unlock window()

Owindow Open() window Close() window Lock() window Linlock()

What will be the output of the following pseudocode?

1 Function main

O 3.4e

2 int 117

Ο 3.0

3 int j = 5

O 3.4

4 double n

5n (double) i/j

6 Print ("value of n %f", n)

7 End of main

Consider the following pseudocode:

Revist

Choose the best option

Which of the following options indicate the output of this pseudocode?

FUNCTION PrintSqr

7 FOR I-1 TO 10 STEP 2 DO

3 Print SQUARE OF, I, is CALCULATE (II)

4 END FOR

5 END FUNCTION

6

7 PROGRAM START

CALL PrintSqr

9 STOP

SQUARE OF 1 is 1

SQUARE OF 24

SQUARE OF 3 is 9 SQUARE OF 4 is 16

SQUARE OF 5 is 25 SQUARE OF 6s 36

SQUARE OF 7 is 40

SQUARE OF 8 is 64

SQUARE OF 9 is 81

SQUARE OF 10 is 100

SQUARE OF 1 is 1

SQUARE OF 3 is 9

SQUARE OF 5 is 25

SQUARE OF 7 is 49

SQUARE OF 9 is. 81

SQUARE OF 10 is 100

SQUARE OF 2 is 4

SQUARE OF 4 is 10

SQUARE OF 6 is 36

SQUARE OF 8 is 64

Consider a 2-D array A[5...10][5...10] stored in column-major order, where each element A[i]), 5<=<=10 and 5<=j<=10 is of 4 bytes and the address of A[5][5] is 1000, What is the address of A[7][9]?

01104

01108

Ο 1064

01068

**What would be the output of the code given?**

1 #include<stdio.h>

2 int main() {

3 char a;

4 char clist[10]= (1,2,3,4,5,6,7,8);

5 a=(clist+1) [5]; I

6 printf("%d", a); return 0;

7)

**What will be the output of the below pseudocode?**

1 Input user\_choice

2 IF user\_choice greater than 6 then

3 print "Invalid choice"

4 else

5 REPEAT

6 Set user\_choice=user\_choice-1

7 print user\_choice

8 UNTIL user\_choice not equal to 0

054

3

2

1

0

04

4321

04

3

2

1

0

054

37

3

2

Which of the given statements specifies the following code?

INCREASE-KEY(SA) increases value of element x's key to k

Assume 2x's current key value"

Min-priority queue

Max-priority queue

Avg-priority queue

None of the given options

Today is the day for the class photograph of 2021 ECE batch at Vasavi. There are "x" boys and "y" girls in the batch. The photographer decides that the group photograph would look awesome if there are no more than "b" boys lined up together and no more than "g" girls lined up together. Otherwise, the photo would not be awesome.

Your task is to find the number of ways of arranging "x" boys and "y" girls for an awesome group photo.

Input Format

Four space-separated integers - x, y, g

Constraints

1 <= (x, y) <= 1000 and 1 <= (b, g) <= 20

Output Format

Output a single integer i.e. number of arrangements modulo (10^9+7)

Sample Input 0

1251

Sample Output 0

1

Explanation 0

Street Lights

One of the streets in your city has a total of L. street lights. Each light i covers the street from Xi to Yi distance. Find the length of street covered with light.

Input Specification:

input1: L, denoting the number of street lights.

input2: An array of L\*2 elements. For each row i, (Xi, Yi) denote that the street light i covers the distance from Xi to Yi.

Output Specification:

Your function should return the length of the street covered with light.

Example 1:

input1: 1,

input2: {{5,10}}

Output: 5

Explanation:

Street Light 1: 10-55 units covered.

Fill in the blank:

In a binary search, the search. is of significance while performing a search, whereas it is not so in a linest

highest value in the list

Which of the following is the correct method to load another web page or reload the same page in HTML. 6:0

<head>>

<meta http-equiv=refresh content=5>

</head>

<html>

<head>

<title>Auto Reload</title>

<script language="JavaScript">

<-

var time = null

function move() {

window.location = 'http://site.com'

}

//->

</script>

</head>

<body onload="timer-setTimeout('move()', 5000)">

<p>see this page refresh itself in 5 secs <p>

</body>

</html>

<head>

<meta http-equiv=refresh content="5,URL=http://yahoo.com >

</head>

All of the above

size of the list

mean value of the list

order of the list

Consider an array [10] = (24,2,9,3,7,8.22. 16. 12,10).

To sort the array in ascending order, quick sort divide and conquer algorithm has been used. The last element of the array is used as the pivot. Select the correct output of each pass of the algorithm.

1 (29,3,7,8,10,22,12,16,20

2. (2,3,7,8,9,10,22,12,16,24)

3 (2,3,7,8,9,10,12,16,22,24)

4 (2,3,7,8,9,10,12,16,22,24

1(10,2,9,3,7,8,22,12,16,24)

2. (24,2,3,7,8,9,10,22,12,1

3 (2,3,7,8,9,10,12,16,22,24

4 (2,3,7,8,9,10,12,16,22,24)

1 (2,9,3,7,8,22,12,16,34,10

2. (2,3,7,8,9,22,12,16,24,10)

3 (2,3,7,8,9,12,16,22,24,10

4 (2,3,7,8,9,10,12,16,22,24)

1 (2,3,7,8,9,10,22,12,15,24)

2. (2,3,7,8,9,10,22,12,16,24)

3 (2,3,7,8,9,10,12,16,22,24)

4 (2,3,7,8,9,10,12,16,22,24

Assume you have a chessboard with the dimensions 44 You want to place 4 queens of the chessboard so that no two qubens attack each other. Which of the following algorithmic paradigms will be iseful in finding the solution to thus problem?

Choose the best option

Divide and conquer

Grefidy algorithm

Backtracking

Branch and bound

Consider an array X[10] = (24,2,9,3,7,8,22.16.12,10).

To sort the array in ascending order, quick sort divide and conquer algorithm has been used. The last element of the array is used as the pivot. Select the correct output of each pass of the algorithm.

Revisit

Choose the best option

1 (2,9,3,7,8,10,22,12,16,24)

2. (2,3,7,8,9,10,22,12,16,24)

3 (2,3,7,8,9,10,12,16,22.24)

4 (2,3,7,8,9,10,12,16,22.24)

1 (10,2,9,3,7,8,22,12,16,24)

2. (24,2,3,7,8,9,10,22,12,16)

3 (2,3,7,8,9,10,12,16,22,24)

4 (2,3,7,8,9,10,12,16,22,24)

1 (2,9,3,7,8,22,12,16,24.10)

2. (2,3,7,8,9,22,12,16,24,10)

3 (2,3,7,8,9,12,16,22,24,10)

4 (2,3,7,8,9,10,12,16,22,24)

1 (2,3,7,8,9,10,22,12.16.24)

2. (2,3,7,8,9,10,22,12,16,24)

3 (2,3,7,8,9,10,12,16,22,24)

4 (2,3,7,8,9,10,12,16,22.24)

What will be the output of the below pseudocode?

1 Function alter (parameter:pointer to f1)

2

To

Set f1="Office"

3

print f1

4

End Function

5

6

set st1 to "Home"

7

call alter(pointer 1 st1)

8

print st1

Which of the following statements is/are false about a pointer?

A pointer allows to pass variables, strings, functions, arrays, and structures as function arguments.

A pointer provides functions that can modify their calling arguments.

A pointer variable holds the value as well as the memory address of another variable.

A pointer does not allow to return structured variables from functions.

A pointer supports dynamic allocation and de-allocation of memory segments.

Find the output of the following pseudocode

Pseudocode:

1 BEGIN

2 INTEGER x = 4

3 FUNCTION func(x)

4 IF x = theta

5 return 1

6 ELSE

7 IF x \* 22 = 8

return 2 - x + func (x - 2)

9 ELSE

18 return (x - 3) func (x + 1)

11 ENDIF

12 ENDFUNCTION

13 END

Assuming f(n) as a function that returns the factorial of a number n, if f(n) is implemented tail recursively and the compiler is capable of optimizing tail recursion, what would be the maximum depth of the call stack, at any given time, created by the call f(10)?

10

11

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2

What will be the output of the following C language code when it is executed without any command line argument?

#include <stdio.h>

int main(int argc, char \*argv[]) {

if(argc == 2) { printf("%s\n", argv[1]);

}

else if(argc > 2) { printf("Demo1\n");

}

else { printf("Demo2\n");

} }

O Demo

O Demol

Demo2

None of the above

Question #3

Reviall

Choose the best option

Given below is an array that needs to be sorted using the Radix Sort alogorithm. Which of the following shows the correct list generated after Pass II of the Radix Sort algorithm?

210,17,218,05,71.

210, 71, 55, 17, 318, 09

price)=(17, 318, 71, 210, 89, 55)

17,55, 71, 80, 210.318

17,210, 318, 56, 71, 80

How to attempt?

Question:

Regions on a Plane

Mr. Professor is a great scientist, but he is not able to find a solution to one problem. There are N straight lines that are not parallel, and no three lines go through the same point. The lines divide the plane into M regions. Write a function to find out the maximum number of such regions he can get on the plane.

Input Specification:

input1: An Integer N representing the number of straight lines (0 <= N <= 100)

Output Specification:

Return the maximum number of regions

Example 1:

input1: 2

Output: 4

Explanation:

Given the above scenamp 2 útes divide the plane into & regkona Therbee, resumed as the output

Example 2:

The length of the longest common subsequence in "abdfe" and "padiqe" is

03

04

05

02

What will be the output of the following program for num = 10?

1 initialize output with zero

20 while (num is greater than 0) {

3 push num on to the stack

4 decrement num

5}

6 while (stack is not empty) {

7 pop the stack and add to the output

8}

9 print output

class Node

2 int key:

3 Node left null, right null;

4

01

04

5

6

Node(int key) {

this.key = key;

7)

8}

9

16 class Main {

public static int height (Node root) (

11

12

13

14

15

if (root null) {

} return 1 + Math.max(height(root. left), height (root right)

return 0;

10)

17 public static void main(String[] args){

18

Node root null;

19

roat new Node(15);

root.left = new Node(10)

20

root.right new Node(20);

21

27

root. left.left new Node();

root.left. right now Node(12)

23

24

root.right.left-new Node(16)

Mohammad

Virat is looking to book hotel rooms for an incoming delegation of engineers. She is Allowed to spe

anywhere between B Rupees and C Rupees (Both Inclusive). She needs to book rooms consecutive

delegates would prefer to stay as close as possible.

Virat as been given the pricing of the rooms in the form of a array (A). You need to help virat to fine total no of options available to book like this in the given range.

Note- There is no restriction in no of rooms he can book. (Min 1 or Max Size of the array)

Input Format

First Line contains 3 Integers N,B,c where N is the Size of the array.

Second Line contains N integers denoting the price of teach rooms available.

Output format

Total No of possible option available for to book the rooms.

Constraints

1< N,B,C <= 10^6

Sample Input 0

568

105102

Sample Output 0

3

Explanation

5,1],[5,1,0), (5,1,0,1) are only 3 consecutive options available within the price sum range

What will be the output of the following program?

1 class Node {

2 int key;

3 Node left null, right = null;

4

5 Node(int key) {

6 this.key key;

7 }

8}

9

18 class Main {

11 public static int height(Node root) {

12 if (root == null) {

13

return 0;

I

14 }

return 1 + Math.max(height(root.left), height (root.right));

15

16 }

17

18

public static void main(String[] args) {

Node root null;

19 root new Node(15);

20

21

22

23

root.left = new Node(10); root.right = new Node(20);

root.left.left = new Node(B);

root.left.right = new Node(12);

24 root.right.left = new Node(16);

root.right.right = new Node (25);

Input Specification:

input1: The number of questions in the paper

input2: The array representing the original marks assigned to every questions

Output Specification:

The minimum total marks Mr. Myers can set the paper for

Example 1:

input1: 5

input2: (1,2,3,4,5}

Output: 15

Explanation:

As all the questions already have distinct marks, he can set the paper as it is with minimum marks as 1+2+3+4+5 = 15.

Example

code is used to create a heap from any provided array:

void buildHeap(int arr[], int n){

int startIdx = (n / 2) - 1;

for (int i startIdx; i >= 0; i--) {

heapify(arr, n, i);

}

}

void heapify(int arr[], int n, int i){

int largest = i;

int 1 = 2 \* 1 + 1;

int r 2 1 + 2;

if (1 < n && arr[1] > arr[largest])

largest = 1;

if (r < n && arr[r] > arr[largest])

largest = r;

if (largest != 1) {

int swap = arr[i];

arr[i] = arr[largest];

arr[largest] = swap;

heapify(arr, n, largest);

Section 4 of 7 MCQs Part

Question #5

Consider a table student that has functional dependencies as given below:

std id std\_name

std\_id->std\_city

std\_city std\_state

std\_id> std age

Serena and Flowers

Serena has a garden with N flower polli arranged in a row. Every morning she walks through the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk through the K pots

Input Specification:

Input1: N. number of flower pots in Serena’s ganden

Input2: K number of pots Serena visits on her walk

Input: An array containing pot andex P, to represent each pot by unique numbers (1-P1000), pots having the same flower will have the same pot Indes

Output Specification:

Your function should retum the number of different flowers plucked by

ALT-TAB Window

While using a computer, a user uses the ALT-TAB key to switch between applications. The ALT-TAB window works on the principle of holding the ALT key for MRU (Most Recently Used) listing. Hence, the applications arrange themselves in such a way that the most recently used application will be the first item in the ALT-TAB window and so forth.

You are given the list of opened applications and the number of times that the user presses the ‘Tab key’ to switch between applications. Find the final arrangement of applications in the ALT-TAB window.

Example:

In the given picture, Libraries application is focused, which means that holding the ALT key, the user presses the Tab key twice. Internet Explorer being the most recently used application followed by Libraries and so on.

Libraries

Input Specification:

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Section 5 of 7

Hands On P

Question:

Primes with a Twist

Given an integer n (1 <= n <= 104), you need to count the numbers, x₁ <n, which are co-prime to 'n', i.e. gcd(x, n) = 1.

Formally, given n, you need to find f(n) = {x < n. gcd(x, n) = 1}

Input Specification:

input1: the integer 'n'

Output Specification:

Return the count of the number of co-primes of 'n'

Example 1:

input1: 4

Output: 2

Explanation:

While normalizing any database design, what is the most important point that cannot be compromised?

Choose the best option

Data redundancy

Data integrity

Data

Coding Marathon

N number of people participated in a coding marathon where they were asked to solve some problems. Each problem carried 1 mark and at the end of the marathon, the total marks that each person achieved was calculated.

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

input1: N, Total number of participants

input2: K, Top scorers

input3: An array of length N with the scores of all N participants

Output Specification:

um of the marks of top K scorers from the list.

input1:5

Output: 2

Explanation:

Two groups will be formed: 2, 3, 4, 6 5

input1: 10

Output: 3

Explanation:

Three groups will be formed:

2, 3, 4, 5, 6, 8, 9, 10

7

11

N number of people participated in a coding marathon where they were asked to solve some problems. Each problem carried 1 mark and at the end of the marathon, the total marks that each person achieved was calculated.

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

Inputt: N. Total number of participants

input2: K. Top scorers

inputs: An array of length N with the scores of all N participants

Output Specification:

Return S, sum of the marks of top K scorers from the list.

input1: 4

input2: 2

input3: (4,1,2,5)

Output: 9

Explanation:

Top 2 scores are 5 and 4. Sum= 5+4=9.

input1: 4

input2: 3

input3: (4,3,6,1)

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Section 5 of 7

Hands On P

The United Nations Organization released an official document regarding the most important events from the beginning of time (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format.

Find the total number of distinct years referenced in the document

Input Specification:

input1: String containing the content of the document

Output Specification:

Return the total number of distinct years referenced in the document.

Example 1:

input1: UN was established on 24-10-1945. India got freedom on 15-08-1947.

Output: 2

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In the fatowing tatile design is in BCNF, then identity the correct statement from the given options

Asacher course teacher\_course\_id)

student courseystudent\_it

mettt

Section 5 of 7

Hands On P

Question # 1

ALT-TAB Window

While using a computer, a user uses the ALT-TAB key to switch between applications. The ALT-TAB window works on the principle of holding the Al key for MRU (Most Recently Used) listing. Hence, the applications arrange themselves in such a way that the most recently used application will be th item in the ALT-TAB window and so forth.

You are given the list of opened applications and the number of times that user presses the 'Tab key' to switch between applications. Find the final arrangement of applications in the ALT-TAB window.

Example:

In the given picture, Libraries application is focused, which means that hold the ALT key, the user presses the Tab key twice. Internet Explorer being the most recently used application followed by Libraries and so on.

Libraries

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Section 5 of 7 Hands On P

Question:

Max Contiguous Sequences

Given an array of N integers, determine all contiguous subsequences of positive number Then write a function to find the sum of elements in each sub-sequence and output the maximum sum value.

Input Specification:

Input1: An integer N denoting length of array

Input2: An integer array of length N (-10000 <= A[i] <= 10000)

Output Specification:

Return the maximum sum of contiguous sub-sequence of numbers

Example 1:

Input1: 5

Input2: (1,2,4,-2,3)

Output: 7

Explanation:

Contiguous sub-sequences of positive numbers in the given array are: (1,2,4) and (3). Their respective sums are 7 and 3. Hence, the maximum value between the two le., 7 is returned as the output.

A mathematics question paper has certain number of questions and each question is assigned some random maximum marks. Mr. Myers wants to edit the marks assigned to the questions such that:

1. All questions in the paper should have distinct maximum marks.

2. The total marks of all the questions should be as low as possible.

Mr. Myers wants to achieve this by making minimal changes in the original

format, assigning the question at least as much marks as it originally had. Find

the minimum total marks that he can set the paper for.

Input Specification:

input1: The number of questions in the paper

input2: The array representing the original marks assigned to every question

Output Specification:

The minimum total marks Mr. Myers can set the paper for.

Pow mettl

12

Section 5 of 7 Hands On P

Question # 2

Question:

Serena and Flowers

Serena has a garden with N flower pots arranged in a row Every morning she walks through the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk through the K pots.

Input Specification:

input1: N, number of flower pots in Serena's garden

input2: K, number of pots Serena visits on her walk

input3: An array containing pot index P, to represent each pot by unique numbers (1<=P<=1000); pots having the same flower will have the same pot index

Output Specification:

Your function should return the number of different flowers plucked by

Savitha | Support +1 650

Lenovo

Section 5 of 7 Hands On P

Question # 2

Serena and Flowers

Serena has a garden with N flower pots arranged in a row Every morning she walks through the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk through the K pots.

Input Specification:

input1: N, number of flower pots in Serena's garden

input2: K, number of pots Serena visits on her walk

input3: An array containing pot index P, to represent each pot by unique numbers (1<=P<=1000); pots having the same flower will have the same pot index

Output Specification:

Your function should return the number of different flowers plucked by

Savitha | Support +1 650

Lenovo

Section 5 of 7

Hands On Pi

Social Network

In a particular social network friends are automatically allocated to users by the system and users cannot add friends of their choice on their own. There are currently N users on the social network, labeled from 2 to N + 1.

For every ith user (where i ranges from 2 to N + 1), the system allocated all the users labeled with multiples of i as the user's friends (if possible).

One day, all users of the social network come together for a meeting and form groups such that each person in a group is a direct friend or a friend of friend of every other person of that group.

Find the total number of groups.

Input Specification:

input1: N, denoting the number of users on the social network

Output Specification:

Your function should return the number of groups that can be formed on the given conditions

Section 5 of 7 Hands On P

Question #2

Street Lights

One of the streets in your city has a total of L. street lights. Each light i covers the street from Xi to Yi distance. Find the length of street covered with light

Input Specification:

Inputt: L, denoting the number of street lights

input2: An array of L2 etements. For each row 1, (X, Y) denote that the sheet light) covers the distance from 30 to Y

Output Specification:

Stur function should refum the length of the street covered with light

Example t

Inputt: 1,

Input2: ((5,103)

Output: 5

Explanation:

Street Light 1:10-5-5 units covered.

Example 2:

Language: C

2

1

4

Cor

Kincludecstate.to

Fincludecstring.ho // Read only regio

Sint

coverage(int i

// Read mly re

// write code

10

Code Results Your Testca

Console Output:

Section 5 of 7

Hands On P

Hiring-2022

Charles and the Necklace

Charles wants to buy a necklace in which:

1. There is a minimum of 1 pearl and maximum of X pearls, such that each peari has its own magnificent coefficient.

2. The pearls should be in non-decreasing order of their magnificence power.

You are given the maximum number of pearls in a necklace and the range of the magnificent coefficients of the pearls. Find the number of necklaces that can be made that follow the mentioned conditions.

Input Specification:

input1: Maximum number of pearls that can be used to form the necklace

input2: Starting magnificent coefficient of pearls

input3: Ending magnificent coefficient of pearls

Output Specification:

Return the number of necklace options possible as per given conditions.

Example 1:

input1: 1

input2: 4

input3: 5

Output: 2

ng-20

Section 6 of 7

Hands On P

Sherlock received a strange case that had an interesting twist. The murderer had placed the victim's body on the top of a tree. The tree was a special one with its roots at the top and leaves at the bottom. As any crime is not perfect, this murderer had left a series of clues in the leaves and the nodes of the tree. The clues were a series of numbers present at the leaves and nodes starting from the bottommost leaves and moving up one by one and Sherlock has to find them and crack them in order to solve the crime. You have to help Sherlock crack the puzzle.

You are given the set of numbers, but in two of the following different ways:

1. Such that the root is between its children

2. Such that the root is before its children

Input Specification:

input1: The number array representing the values in the 1 st way

input2: The number array representing the values in the 2 nd way

input3: Size of the array

Note: In the case where the body is not on the tree, the tree can be empty too.

Output Specification:

The array giving the correct sequence of

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Hiring

Section 6 of 7

Hands On P

Output Specification:

The array giving the correct sequence of numbers as desired for solving the puzzle.

Example 1:

input1: {4,2,5,1,3}

input2: {1,2,4,5,3}

input3: 5

Output: {4.5.2.3.1}

Explanation:

P

and the traversal according to the question will be {4,5,2,3,1).

Example 2:

input1: {2,3,5,1,6}

input2: {1,3,2,5,6}

input3: 5

Output: {2, 5, 3, 6, 1}

Explanation: The tree here is:

3

and the traversal will be {2.5.3.6.1}

3

4

5

6

7

8

9

input1: 4

Output: 2

Explanation:

Integers 1 and 3 are co-prime to 4, but 2 is not.

}

Example 2:

input1: 16

Output: 8

Explanation:

Integers 1, 3, 5, 7, 9, 11, 13 and 15 are co-prime to 16.

Hiring-2022-11 Sep-Set 30

2 of 3

All

Question #2

Revisit

Choose the best option

What does the following function do?

1 public Object some\_func() throws empty StackException

{

if(isEmpty())

throw new empty StackException("underflow");

return first.getEle();

}

Section 5 of 7 Hands On P

Social Network

in a particular social network friends are automatically allocated to users by the system and users cannot add friends of their choice on their own. There are currently N users on the social network, labeled from 2 to N + 1.

For everyth user (where i ranges from 2 to N + 1), the system allocated all the users labeled with multiples of i as the user's friends (if possible).

One day, all users of the social network come together for a meeting and form groups such that each person in a group is a direct friend or a friend of friend of every other person of that group.

Find the total number of groups.

Input Specification:

input1: N. denoting the number of users on the social network

Output Specification:

Your function should return the number of groups that can be formed on the

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Konda umika santhoshini | Support

Street Lights

One of the streets in your city has a total of L street lights. Each light i covers the street from Xi to Yl distance. Find the length of street covered with light

Input Specification:

Inputt: L denoting the number of street lights.

Input2: An array of L2 elements. For each row i, (XI, YI) denote that the street light covers the distance from Xi to Yi

Output Specification:

Your function should retum the length of the street covered with light.

Example 1:

Inputt: 1,

Input2: (15,10))

Output: 5

Explanation:

Street Light 1:10-5-5 units covered.

Example 2:

1

2

Rincludecs #includecs

17 Read on

int covera

Rean

// Write

7

10

Code

Results

Console Output:

Language:

PYTHON

#Read on

Find Me Out

class Use

For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

Note: If such a number X does not exist, then output should be -1.

Input Specification:

10

11

input1: An integer N

12

13

14

Output Specification:

15

Return the minimum positive integer X

Section 5 of 7 Hands On Pi

Question # 1

Revisit

C

How to attempt?

Question:

Wedding Game

In a wedding that you are attending, there are some chairs that have digits inscribed at their backs. The chairs are lined in a row such that they form a string of the digits. Find the minimum number of sets M that can be formed from these digits such that:

1. The number of digits in each set is one or more than one.

2. Each set is formed using consecutive digits and no digit can be used more than once.

3. In each set, the number formed using the digits is less than or equal to Y.

Input Specification:

input1: S, string of digits

input2: Y, No number should be greater than Y

input3: Size of the String S

Output Specification:

Your function should return M, the minimum number of sets

Example 1:

input1: "1234"

input2: 4

input3: 4

Harshavardhan Bollam | Support

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Section 5 of 7 Hands On P

Question #1

Reval

How to attempt? Question

Charles and the Necklace

Charles wants to buy a necklace in which

1. There is a minimum of 1 peart and maximum of X peans, such that each pearl has its own magnificent coefficielat

2. The pearls should be in non-decreasing order of their magnificence powe

You are given the maximum number of peans in a neiektace and the range the magnificent coefficients of the pearls. Find the number of necklaces that can be made that follow the mentioned conditions

Input Specification:

input1: Maximum number of pearts that can be led try the necklace

input2: Starting magnificent coefficient of pears

Inputa. Ending magnificent coefficient of peans

Cutput Specification

Section 5 of 7 Hands On Pi

Question #2

Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, return -999'

Input Specification:

input1: An integer value N denoting the length of the array

input2: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1:

input1: 5

input2: (1, 1, 2, 3, 5)

Output: 8

Explanation:

As the above series is a Fibonacci series, hence, the 6th term will be 8. Therefore, 8 will be

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Hands On P

Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, retum '-999'

Input Specification:

input1: An integer value N denoting the length of the array

input2: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1:

input1: 5

input2: (1, 1, 2, 3, 5)

Output: 8

Explanation:

As the above series is a Fibonacci series, hence, the 6th term will be 8. Therefore, 8 will be returned as the output.

Example 2:

Output: 4

Explanation:

Only 4 sets are possible that form a number less than or equal to 4, ie (1) (2) (3) and (4)

Example 2:

input1: "1234"

input2: 30

input3: 4

Output: 3

Explanation:

Only 3 sets are possible that form a number less than or equal to 30, ie (12) (3) (4) or (1) (23),(4)

Question #1

Evaluate a Given Infix Expression

In Infix expressions, operators are written between their operands.

An expression such as A\* (B+C)/ D is usually taken to mean something like:

1. Add B and C together

2. Multiply the result by A

3. Divide by D to get the final answer

Write a program that takes input as a string containing an infix expression and retur evaluated infix expression.

Note:

1. The string contains operators (+,-,/,\*), parenthesis and operands (digits).

2. Each digit is a separate operand.

3. The division operator performs integer division.

4. It is guaranteed that division by zero will never occur during the evaluation.

The operator precedence is as follows:

1. [divide(/) and multiply(\*) operator] > [addition(+) and subtraction(-) operator ].

2. If you encounter operators with same pecedence like (divide and multipy) or (addi

subtraction), then evaluate the operators from left to right.

Input Specification:

input1: a string that contains the infix expression.

Pseudocode:

BEGIN

2 ARRAY =[]={1, 7, 9, 10, 16, 21, 21, 25)

28

030

I

3. INTEGER na.length

4 ARRAY temp[n+1]

5 temp[0] =

6 INTEGER 1, 1

7 FOR 1 IN 1 TO n

25

8 INTEGER temp1-100001

9 FOR IN @ to n-1

10 IF a[j]+ temp[1-j-1] > templ

11 temp1 a[j] + temp[1-1-1]

12 ENDIF

13 temp[1] = temp1

14 ENDFOR

15 PRINT temp[n]

16 END

Minimum Steps

You are currently at cell (1, 1) of an NX M grid. There is a rule that decides how you can move in the grid to reach the position (N, M). The rule is, that if you are at cell (x, y) then from there you can either move to cell (x, x+y) or to cell (x+y, y) in one step.

Your task is to find the minimum number of steps that you must take to reach cell (N, M) starting from current position i.e. (1, 1)

Note: If it is not possible to reach (N, M) from (1, 1), then return -1 as your output

Input Specification:

input1: An integer value representing the value of N where 1<=N

input2: An integer value representing the value of M where M< 106.

Output Specification:

Return the minimum number of steps.

2

12345678

9

Compiler Python 3.6

#Read only region start

class UserMainCode(object):

@classmethod

def minSteps(cls, inputi, input2):

inputi: int

input2: int

Expected return

#Read only region end

pass

C

int

#Write code here

Code

Results

Your Testcase

SHAIK Support

+1 650-924-9221

PYTHON3-

+91 8047190902H

Question #1

Revisit

How to attempt?

Question:

Find Me Out

For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

Note: If such a number X does not exist, then output should be -1.

Input Specification:

input1: An integer N

Output Specification:

Return the minimum positive integer X

Example 1:

input1: 9

Vaishnavi | Suppor

Find Me Out

For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

Note: If such a number X does not exist, then output should be -1.

Input Specification:

input1: An integer N

Output Specification:

Return the minimum positive integer X

Example 1:

input1: 9

Vaishnavi | Suppor

N number of people participated in a coding marathon where they were asked to solve some problems. Each problem carried 1 mark and at the end of the marathon, the total marks that each person achieved was calculated.

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

Inputt: N. Total number of participants

input2: K. Top scorers

inputs: An array of length N with the scores of all N participants

Output Specification:

Return S, sum of the marks of top K scorers from the list.

Example 1:

input1: 4

input2: 2

input3: (4,1,2,5)

Output: 9

Explanation:

Top 2 scores are 5 and 4. Sum= 5+4=9.

Example 2:

input1: 4

input2: 3

input3: (4,3,6,1)

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Hiring

Section 5 of 7

Hands On P

Documents

The United Nations Organization released an official document regarding the most important events from the beginning of time (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format.

Find the total number of distinct years referenced in the document

Input Specification:

input1: String containing the content of the document

Output Specification:

Return the total number of distinct years referenced in the document.

Example 1:

input1: UN was established on 24-10-1945. India got freedom on 15-08-1947.

Output: 2

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Section 4 of 7 MOON Part

Question & B

Revisit

In the fatowing tatile design is in BCNF, then identity the correct statement from the given options

Asacher course teacher\_course\_id)

student courseystudent\_it, course\_kl)

input the second sing

Output Specification

Retum "yes" if they are anagrams, otherwise mum

Example 1:

inputt: build

Input2: dubli

Output: yes

Explanation:

First string can be rearranged to form the second song Here, f

other

Example 2:

input1: beast

input: yeast

Output: no

Explanation:

The first string contains the letter to which is nогревате second string contar's the ettely which strings are not anagyam of each the

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Section 5 of 7

Hands On P

While using a computer, a user uses the ALT-TAB key to switch between applications. The ALT-TAB window works on the principle of holding the Al key for MRU (Most Recently Used) listing. Hence, the applications arrange themselves in such a way that the most recently used application will be th item in the ALT-TAB window and so forth.

You are given the list of opened applications and the number of times that user presses the 'Tab key' to switch between applications. Find the final arrangement of applications in the ALT-TAB window.

Example:

In the given picture, Libraries application is focused, which means that hold the ALT key, the user presses the Tab key twice. Internet Explorer being the most recently used application followed by Libraries and so on.

Libraries

Question:

Max Contiguous Sequences

Given an array of N integers, determine all contiguous subsequences of positive number Then write a function to find the sum of elements in each sub-sequence and output the maximum sum value.

Input Specification:

input1: An integer N denoting length of array

input2: An integer array of length N (-10000 <= A[i] <= 10000)

Output Specification:

Return the maximum sum of contiguous sub-sequence of numbers

Example 1:

input1: 5

input2: (1,2,4,-2,3)

Output: 7

Explanation:

Contiguous sub-sequences of positive numbers in the given array are: (1,2,4) and (3). Their respective sums are 7 and 3. Hence, the maximum value between the two le., 7 is returned as the output.One of the streets in your city has a tota

the street from Xi to Yi distance. Find the

Input Specification:

input1: L, denoting the number of street lig

input2: An array of L \* 2 elements. For each street light i covers the distance from Xi to Yl

Output Specification:

Your function should return the length of the stree

Example 1:

input1: 1,

input2: {{5,10}}

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Mr. Myers and the Exam

A mathematics question paper has certain number of questions and each question is assigned some random maximum marks. Mr. Myers wants to edit the marks assigned to the questions such that:

1. All questions in the paper should have distinct maximum marks.

2. The total marks of all the questions should be as low as possible.

Mr. Myers wants to achieve this by making minimal changes in the original

format, assigning the question at least as much marks as it originally had. Find

the minimum total marks that he can set the paper for.

Input Specification:

input1: The number of questions in the paper

input2: The array representing the original marks assigned to every question

Output Specification:

The minimum total marks Mr. Myers can set the paper for.

Question:

Serena and Flowers

Serena has a garden with N flower pots arranged in a row Every morning she walks through the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk through the K pots.

Input Specification:

input1: N, number of flower pots in Serena's garden

input2: K, number of pots Serena visits on her walk

input3: An array containing pot index P, to represent each pot by unique numbers (1<=P<=1000); pots having the same flower will have the same pot index

Output Specification:

Your function should return the number of different flowers plucked by

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Section 5 of 7

Hands On P

Question # 1

Rev

How to attempt?

Question:

Max Contiguous Sequences

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Return the maximum sum of contiguous sub-sequence of numbers

Example 1:

input1: 5

input2: (1,2,4,-2,3)

Output: 7

Explanation:

Contiguous sub-sequences of positive numbers in the given array are: (1,2,4) and (3). Their respective sums are 7 and 3. Hence, the maximum value between the two le, 7 is relumed as the output.

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Section 5 of 7

Hands On P

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Example 1:

input1: 5

input2: (1,2,4,-2,3)

Output: 7

Explanation

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Section 5 of 7

Hands On Pi

Question # 1

Revisit

How to attempt? Question:

Social Network

In a particular social network friends are automatically allocated to users by the system and users cannot add friends of their choice on their own. There are currently N users on the social network, labeled from 2 to N + 1.

For every ith user (where i ranges from 2 to N + 1), the system allocated all the users labeled with multiples of i as the user's friends (if possible).

One day, all users of the social network come together for a meeting and form groups such that each person in a group is a direct friend or a friend of friend of every other person of that group.

Find the total number of groups.

Input Specification:

input1: N, denoting the number of users on the social network

Output Specification:

Your function should return the number of groups that can be formed on the given conditions

Example 1:

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Section 5 of 7

Hands On Pi

Social Network

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Input Specification:

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Output Specification:

Your function should return the number of groups that can be formed on the given conditions

Example 1:

Section 5 of 7 Hands On P

Street Lights

One of the streets in your city has a total of L. street lights. Each light i covers the street from Xi to Yi distance. Find the length of street covered with light

Input Specification:

Inputt: L, denoting the number of street lights

input2: An array of L2 etements. For each row 1, (X, Y) denote that the sheet light) covers the distance from 30 to Y

Output Specification:

Stur function should refum the length of the street covered with light

Example t

Inputt: 1,

Input2: ((5,103)

Output: 5

Explanation:

Street Light 1:10-5-5 units covered.

Example 2:

Section 5 of 7 Hands On P

Hiring-2022-11 Sep-Set 30

The United Nations Organization released an official document regarding the most important events from the beginning of time (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format.

Find the total number of distinct years referenced in the document.

Input Specification:

input1: String containing the content of the document

Output Specification:

Return the total number of distinct years referenced in the document.

Example 1:

1 // Feat only regist

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Section 5 of 7

Hands On P

Charles and the Necklace

Charles wants to buy a necklace in which:

1. There is a minimum of 1 pearl and maximum of X pearls, such that each peari has its own magnificent coefficient.

2. The pearls should be in non-decreasing order of their magnificence power.

You are given the maximum number of pearls in a necklace and the range of the magnificent coefficients of the pearls. Find the number of necklaces that can be made that follow the mentioned conditions.

Input Specification:

input1: Maximum number of pearls that can be used to form the necklace

input2: Starting magnificent coefficient of pearls

input3: Ending magnificent coefficient of pearls

Output Specification:

Return the number of necklace options possible as per given conditions.

Example 1:

input1: 1

input2: 4

input3: 5

Output: 2

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Section 6 of 7

Hands On P

Sherlock received a strange case that had an interesting twist. The murderer had placed the victim's body on the top of a tree. The tree was a special one with its roots at the top and leaves at the bottom. As any crime is not perfect, this murderer had left a series of clues in the leaves and the nodes of the tree. The clues were a series of numbers present at the leaves and nodes starting from the bottommost leaves and moving up one by one and Sherlock has to find them and crack them in order to solve the crime. You have to help Sherlock crack the puzzle.

You are given the set of numbers, but in two of the following different ways:

1. Such that the root is between its children

2. Such that the root is before its children

Input Specification:

input1: The number array representing the values in the 1 st way

input2: The number array representing the values in the 2 nd way

input3: Size of the array

Note: In the case where the body is not on the tree, the tree can be empty too.

Output Specification:

The array giving the correct sequence ofFostro

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Section 6 of 7

Hands On P

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Input Specification:

input1: The number array representing the values in the 1 st way

input2: The number array representing the values in the 2 nd way

input3: Size of the array

Note: In the case where the body is not on the tree, the tree can be empty too.

Output Specification:

The array giving the correct sequence of

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Hiring

Section 6 of 7

Hands On P

Output Specification:

The array giving the correct sequence of numbers as desired for solving the puzzle.

Example 1:

input1: {4,2,5,1,3}

input2: {1,2,4,5,3}

input3: 5

Output: {4.5.2.3.1}

Explanation:

and the traversal according to the question will be {4,5,2,3,1).

Example 2:

input1: {2,3,5,1,6}

input2: {1,3,2,5,6}

input3: 5

Output: {2, 5, 3, 6, 1}

Explanation: The tree here is:

1

2

3

1of3

AlI

Assume you have a chessboard with the dimensions 4\*4. You want to place 4 queens on the chessboard so that no two queens attack each other. Which of the following algorithmic paradigms will be useful in finding the solution to this problem?

Revisit

Choose the best option

Divide and conquer

Greedy algorithm

Backtracking

Branch and bound

mettl

Section 5 of 7 Hands On P

Revisit

Question #1

How to attempt? Question

Social Network

in a particular social network friends are automatically allocated to users by the system and users cannot add friends of their choice on their own. There are currently N users on the social network, labeled from 2 to N + 1.

For everyth user (where i ranges from 2 to N + 1), the system allocated all the users labeled with multiples of i as the user's friends (if possible).

One day, all users of the social network come together for a meeting and form groups such that each person in a group is a direct friend or a friend of friend of every other person of that group.

Find the total number of groups.

Input Specification:

input1: N. denoting the number of users on the social network

Output Specification:

Your function should return the number of groups that can be formed on the

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attempt?

Question

Street Lights

One of the streets in your city has a total of L street lights. Each light i covers the street from Xi to Yl distance. Find the length of street covered with light

Input Specification:

Inputt: L denoting the number of street lights.

Input2: An array of L2 elements. For each row i, (XI, YI) denote that the street light covers the distance from Xi to Yi

Output Specification:

Your function should retum the length of the street covered with light.

Example 1:

Inputt: 1,

Input2: (15,10))

Output: 5

Explanation:

Street Light 1:10-5-5 units covered.

Example 2:

1

2

Rincludecs #includecs

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Code

Results

Console Output:

Revisit

Language:

PYTHO

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How to attempt?

Question

#Read on

Find Me Out

class Use

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For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

5

6

7

8

9

def

Note: If such a number X does not exist, then output should be -1.

Input Specification:

10

11

input1: An integer N

12

13

14

Output Specification:

15

Return the minimum positive integer X

Section 5 of 7 Hands On Pi

Question # 1

Revisit

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How to attempt?

Question:

Wedding Game

In a wedding that you are attending, there are some chairs that have digits inscribed at their backs. The chairs are lined in a row such that they form a string of the digits. Find the minimum number of sets M that can be formed from these digits such that:

1. The number of digits in each set is one or more than one.

2. Each set is formed using consecutive digits and no digit can be used more than once.

3. In each set, the number formed using the digits is less than or equal to Y.

Input Specification:

input1: S, string of digits

input2: Y, No number should be greater than Y

input3: Size of the String S

Output Specification:

Your function should return M, the minimum number of sets

Example 1:

input1: "1234"

input2: 4

input3: 4

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Section 5 of 7 Hands On P

Question #1

Reval

How to attempt? Question

Charles and the Necklace

Charles wants to buy a necklace in which

1. There is a minimum of 1 peart and maximum of X peans, such that each pearl has its own magnificent coefficielat

2. The pearls should be in non-decreasing order of their magnificence powe

You are given the maximum number of peans in a neiektace and the range the magnificent coefficients of the pearls. Find the number of necklaces that can be made that follow the mentioned conditions

Input Specification:

input1: Maximum number of pearts that can be led try the necklace

input2: Starting magnificent coefficient of pears

Inputa. Ending magnificent coefficient of peans

Cutput Specification

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Section 5 of 7 Hands On Pi

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, return -999'

Input Specification:

input1: An integer value N denoting the length of the array

input2: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1:

input1: 5

input2: (1, 1, 2, 3, 5)

Output: 8

Explanation:

As the above series is a Fibonacci series, hence, the 6th term will be 8. Therefore, 8 will be

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Harshavardhan Bollam | Support

Serena and Flowers

Serena has a garden with N flower pots arranged in a row. Every morning shes

the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk pots

Input Specification:

input1: N, number of flower pots in Serena's garden

input2: K, number of pots Serena visits on her walk

input3: An array containing pot index P, to represent each pot by unique numbers (1<=P, <=1000); pots having the same flower will have the same pot index

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Output Specification:

Your function should return the number of different flowers plucked by Serena.

Example 1:

input1: 5

input2: 3

input3: {1,1,2,1,5}

Output: 2

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Section 5 of 7

Hands On P

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Question # 1

Revisit

How to attempt?

Question:

Charles and the Necklace

Charles wants to buy a necklace in which:

1. There is a minimum of 1 pearl and maximum of X pearls, such that each pearl has its own magnificent coefficient.

2. The pearls should be in non-decreasing order of their magnificence power.

You are given the maximum number of pearls in a necklace and the range of the magnificent coefficients of the pearls. Find the number of nel faces that can be made that follow the mentioned conditions.

Input Specification:

input1: Maximum number of pearls that can be used to form the necklace

input2: Starting magnificent coefficient of pearls

input3: Ending magnificent coefficient of pearls

Lalitha

Section 5 of 7 Hands On P

Output: 2

Explanation:

Necklace can be formed using one pearl of either magnificence coefficient 4 or magnificence coefficient 5, hence total number of perfect necklaces are 2.

Example 2:

input1: 2

input2: 8

input3: 9

Output: 5

Explanation:

Necklace can be formed using two pearls of either magnificance coefficients (8,8) or (8,9) or (9,9), or using one pearl of either magnificence coefficient 8 or 9, hence total number of perfect necklaces are 5

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Section 5 of 7

Hands On P

Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with N numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, retum '-999'

Input Specification:

input1: An integer value N denoting the length of the array

input2: An integer array denoting the values of the series

Output Specification:

Return the next element of the series

Example 1:

input1: 5

input2: (1, 1, 2, 3, 5)

Output: 8

Explanation:

As the above series is a Fibonacci series, hence, the 6th term will be 8. Therefore, 8 will be returned as the output.

Example 2:

Output: 4

Explanation:

Only 4 sets are possible that form a number less than or equal to 4, ie (1) (2) (3) and (4)

Example 2:

input1: "1234"

input2: 30

input3: 4

Output: 3

Explanation:

Only 3 sets are possible that form a number less than or equal to 30, ie (12) (3) (4) or (1) (23),(4)

Revist

How to attempt?

Question:

Serena and Flowers

Serena has a garden with N flower pots arranged in a row. Every morning she walks through the row and plucks flowers. She targets to visit the first K pots in the row

Find the number of different flowers that Serena would pluck on a single walk through the K pots.

Input Specification:

input1: N. number of flower pots in Serena's garden

input2: K, number of pots Serena visits on her walk

input3: An array containing pot index P, to represent each pot by unique numbers (1<=P <=1000); pots having the same flower will have the same pot index

Output Specification:

Your function should return the number of different flowers plucked by Serena

Example 1:

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Retum the n

Example 1:

input1: 1

input2: 4

input3: 5

Output: 2

Explanation:

Necklace can be formed using one pearl of eithe or magnificence coefficient 5, hence total numbe

Example 2:

input1: 2

input2: 8

input3: 9

Output: 5

7 Hands On P

Question #2

How to attempt? Question

Femr

Arithmetic Progression

Given the second and the third terms of an AP10 22 a10fthe 1000) term of the sequence.

Input Specification

inputt: Second element of series (integer)

Input2 That element of series (Integer

Input Total number of elements in the series eger)

Output Specification:

Retum the end of the senes

Example

Input: Input2:2

input:

Output: 3

Explanation:

acent Nomenc

Question:

Series Problem

A given series could be an Arithmetic Progression, a Geometric Progression, or a Fibonacci Series. You will be provided with Numbers and your task is to first decide which type of series it is, and then find out the next number in that series.

Note: If you are not able to get an output, retum '-999

Input Specification:

input1: An integer value N denoting the length of the aray

input2: An integer array denoting the values of the series

Output Specification:

Question #1

R

How to attempt?

Question:

Evaluate a Given Infix Expression

In Infix expressions, operators are written between their operands.

An expression such as A\* (B+C)/ D is usually taken to mean something like:

1. Add B and C together

2. Multiply the result by A

3. Divide by D to get the final answer

Write a program that takes input as a string containing an infix expression and retur evaluated infix expression.

Note:

1. The string contains operators (+,-,/,\*), parenthesis and operands (digits).

2. Each digit is a separate operand.

3. The division operator performs integer division.

4. It is guaranteed that division by zero will never occur during the evaluation.

The operator precedence is as follows:

1. [divide(/) and multiply(\*) operator] > [addition(+) and subtraction(-) operator ].

2. If you encounter operators with same pecedence like (divide and multipy) or (addi

subtraction), then evaluate the operators from left to right.

Input Specification:

input1: a string that contains the infix expression.

Question:

Evaluate a Given Infix Expression

In Infix expressions, operators are written between An expression such as A\* (B+C) / D is usually

1. Add B and C together

2. Multiply the result by A

3. Divide by D to get the final answer

Write a program that takes input as a string conta evaluated infix expression.

Note:

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1. [divide(/) and multiply(\*) operator] > [additic

2. If you encounter operators with same pecede

subtraction), then evaluate the operators from I

Input

Pseudocode:

BEGIN

2 ARRAY =[]={1, 7, 9, 10, 16, 21, 21, 25)

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3. INTEGER na.length

4 ARRAY temp[n+1]

5 temp[0] =

6 INTEGER 1, 1

7 FOR 1 IN 1 TO n

25

8 INTEGER temp1-100001

9 FOR IN @ to n-1

10 IF a[j]+ temp[1-j-1] > templ

11 temp1 a[j] + temp[1-1-1]

12 ENDIF

13 temp[1] = temp1

14 ENDFOR

15 PRINT temp[n]

16 END

Question#1

How to attempt?

Question:

Minimum Steps

You are currently at cell (1, 1) of an NX M grid. There is a rule that decides how you can move in the grid to reach the position (N, M). The rule is, that if you are at cell (x, y) then from there you can either move to cell (x, x+y) or to cell (x+y, y) in one step.

Your task is to find the minimum number of steps that you must take to reach cell (N, M) starting from current position i.e. (1, 1)

Note: If it is not possible to reach (N, M) from (1, 1), then return -1 as your output

Input Specification:

input1: An integer value representing the value of N where 1<=N

input2: An integer value representing the value of M where M< 106.

Output Specification:

Return the minimum number of steps.

POWERED BY metti

Revisil

Question #1

Revisit

How to attempt?

Question:

Find Me Out

For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

Note: If such a number X does not exist, then output should be -1.

Input Specification:

input1: An integer N

Output Specification:

Return the minimum positive integer X

Example 1:

input1: 9

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Question #2

Revisit

Language:

C

1

2

3

How to attempt?

Question:

#includ

Find Me Out

#includ

//

For a given number N (0 < N <= 100), little Johnny wants to find out the minimum positive integer X divisible by N, where the sum of digits of X is equal to N, and X is not equal to N.

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5

6

int Fi

Note: If such a number X does not exist, then output should be -1.

7

{

Input Specification:

8

9

10

}

input1: An integer N

Output Specification:

Return the minimum positive integer X

Example 1:

input1: 9

Code

metti

Section 5 of 7 Hands On P

Example 1:

inputt: Welcome to mettl

Output: metti to Welcome

Explanation:

Welcome is the first word of the string and hence is placed at the last position in the output string. Similarly, with to and mettl which get placed at the second and first position respectively in the output string.

Example 2:

input't: My name is khan

Output: khan is name My

Explanation: My is the first word of the input string and hence is placed at the last position in the output string. Similarly, with name which is at the second position of the input string is placed at the second last position of the output string. Also, is and khan get placed at the second and first position

12345678

9

Language: C

#include<stdio.h>

#include<string.h>

// Read only region start

char\* reverseString(char\* input1)

{

// Read only region end

// Write code here

I

10

Hp

#1

How to attempt?

Revisit

Language:

2

class Solation

5

32

14

15

17

Question:

Reducing Dishes

Monica has cooked N dishes and collected the data on the level of satisfaction for all the dishes from a guest. The guest returns an array, where the ith element of the array is the liking level of the ith dish. Also, the time taken to cook the ith dish is i.

Like-to-time coefficient of a dish is calculated by multiplying the time taken to cook food with its liking level, i.e., i\*input2[i]. Total Like-to-time coefficient is calculated by summing up all individual coefficients of dishes.

You want the total Like-to-time coefficient to be maximum. You can also remove some dishes, in which case, a new coefficient is calculated using the left dishes.

Find the maximum sum of all possible Like-to-time coefficients.

Input Specification:

input1: N. number of dishes

input2: Array representing the liking value of each dish

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How to attempt? Question:

ALT-TAB Window

While using a computer, a user uses the ALT-TAB key to switch between applications. The ALT-TAB window works on the principle of holding the ALT key for MRU (Most Recently Used) listing. Hence, the applications arrange themselves in such a way that the most recently used application will be the frut item in the ALT-TAB window and so forth.

You are given the list of opened applications and the number of times that the user presses the 'Tab key' to switch between applications. Find the final arrangement of applications in the ALT-TAB window

Example:

In the given picture, Libraries application is focused, which means that holdin

the ALT key, the user presses the Tab key twice. Internet Explorer being the

most recently used application followed by Libraries and so on

Libraries

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Supriya

to a

Question:

Coding Marathon

number of people participated in a coding marathon where they were asked to solve some problems. Each problem carried 1 mark and at the end of the marathon, the total marks that each person achieved was calculated.

As an organizer, you have the list of the total marks that each person achieved. You have to calculate the sum of the marks of top K scorers from the list.

Input Specification:

input1: N, Total number of participants

input2: K, Top scorers

input3: An array of length N with the scores of all N participants

Output Specification:

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Question #2

A bank has Initated two transactions where both those transactions are working on the same data

Scenario A: Persion X wit redelve his salary from his Bank2 account

Scenario B. Person Y will receive his salary from his BankZ. account

Here, Bank is working at the same time in both scenarios, Identity the transaction mechanism that will be employed to handie this scenario.

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2

Revill

released an official document regarding the most important events from the beginning of fime (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format

Find the total number of distinct years referenced in the document.

Input Specification:

input1: String containing the content of the document

Output Specification:

Return the fotal number of distinct years referenced in the document.

Example 1:

input1: UN was established on 24-10-1945. India got freedom on 15-08-1947.

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Compeer gec 540

Hinclude<stdio.h> Fincludecstring.h>

GR

\*

23456

7

B

9

10

Langage

and the traversal according to the question will be (4,5,2,3,1).

Example 2:

input1: (2,3,5,1,6)

input2: (1,3,2,5,6)

input3: 5

Output: (2, 5, 3, 6, 1)

Explanation: The tree here is:

۵

and the traversal will be (2,5,3,6,1)

7

8

write your code in this eartor and press kun button to

#include <bits/stdc++.h

using namespace std;

int main()

{

int input1, input2, sum=0;

cin>>input1 ; cin>>input2;

int arr[input1];

for(int i=0;i<input1;i++)

20-

{

21

cin>>arr[i];

K

22

}<

sort(arr, arr+input1, greater<int>()); for(int i=0;i<input2;i++) {

sum=sum+arr[i];

}

cout<<sum;}

Which of the following scenan

1. car\_model -> manu-yr

car\_model -> color

2. Emp\_id, Emp\_name -> Emp\_id

3. Comp\_name -> CEO

CEO -> location

The United Nations Organization released an official document regarding the most important events from the beginning of time (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format.

Find the total number of distinct years referenced in the document.

Input Specification:

Input1: String containing the content of the document

Output Specification:

Return the total number of distinct years referenced in the document.

Example 1:

input1: UN was established on 24-10-1945. India got freedom on 15-08-1947.

Output: 2

Explanation:

2 distinct years, 1945 and 1947 have been referenced.

Example 2:

metti.

You write a love letter to your friend. However, before your friend can read it, someone else takes it and rotates the characters of each word left to right K times. Find the number of words that remain the same even after this shifting of letters.

Love Letter

Note: There spaces behaves the words

Input Specification:

input1: String of words

input2: K, number of times rotation happens

Output Specification:

Your function should retum the number of correct words.

Example 1:

input1: llohe ereth

input2: 2

Output: 0

Documents

The United Nations Organization released an official document regarding the most important events from the beginning of time (dated 00-00-0000) with a brief description of the events. The date of all the events is mentioned in the 'DD-MM-YYYY' format.

Find the total number of distinct years referenced in the document.

Input Specification:

input1: String containing the content of the document

Output Specification:

Return the total number of distinct years referenced in the document.

Example 1:

input1: UN was established on 24-10-1945. India got freedom on 15-08-1947.

Output: 2

Explanation:

2 distinct years, 1945 and 1947 have been referenced.

Example 2:

input1: Soon after the World War 2 ended on 02-09-1945, the UN was established on 24-10-1945.

Question # 1

Minimum Steps

You are currently at cell (1, 1) of an NX M grid. There is a rule that decides how you move in the grid to reach the position (N, M) The rule is, that if you are at cell (x, y) t from there you can either move to cell (x, x + y) or to cell (x + y, y) in one step.

Your task is to find the minimum number of steps that you must take to reach cell (N, starting from current position l.e. (1, 1)

Note: If it is not possible to reach (N. M) from (1, 1), then return -1 as your output.

Input Specification:

input1: An integer value representing the value of N where 1 <= N

input2: An integer value representing the value of M where IM < 106

Output Specification:

Return the minimum number of steps.

Example 1:

input1: 3

input2: 2

Output: 2