

## Adobe:

IIT Delhi : <http://www.iitplacementpapers.com/2012/09/blog-post.html> (same paper got repeated )

## Amazon:

Amazon coding questions at IITDelhi

1) find number of pairs in an array with difference k. Array has unique elements.

2) Second questions was same as

<http://www.geeksforgeeks.org/forums/topic/directi-coding-round-2/>

only story was changed, test cases were same.

IIT Madras:

For MCQ's go through last 5 years GATE papers

coding:

1. List all the repeated characters lexicographically in a string(if 'a' & 'A' are there, that also counts as a repetition).

2. 90 degree rotate a matrix.

## Cisco:

## Citrix:

IITB-21st oct

MCQ

1. mostly from Computer networks, Operating System and OOP's.

3 programming questions

1. goldbachs conjecture

2. string rotation

<http://stackoverflow.com/questions/2553522/interview-question-check-if-one-string-is-a-rotation-of-other-string>

3. given pre and in order traversal print post order traversal of the binary tree. Also report error if for a given combination (pre order, inorder), a tree can not be formed.

Citrix @ IITB

P1 - Goldbach's conjecture states that every even integer greater than 2 can be expressed as the sum of two primes.

Given an  $N$  ( $2 < N < 1,000,000$  &  $N$  is even), find the two primes  $P$  and  $Q$  such that  $P+Q=N$

Input: Each testcases consists of one even integer  $N$  such that  $2 < N < 1,000,000$

Output: Print the values  $P$  &  $Q$  in single line with  $P$  and  $Q$  separated by a single space. if there are multiple values for  $P$  &  $Q$ , then choose one with the lowest value for  $P$ . If there is no such value, then print "!!!" without the quotes and you've proved Goldbach/Euler wrong.

Constraints Each test input contains  $T$  lines of input where each line has an integer  $N$  such that

$0 < T < 100$

$2 < N < 1,000,000$

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P2- One can construct a unique binary tree, given task it to output the post-order traversal for the tree, given pre-order and in-order traversal for that tree.

Input:

Each input testcase will consists of 3 lines. first line gives the number of nodes in the tree. second line gives its pre-order traversal with each node seperated by a whitespace. third line gives its in-order traversal with each node separated by a whitespace.

Output

For each input testcase, output should contain a single line which is the post-order traversal for tree with each node separated by a single white space. If no binary tree can be formed with given input, then print "NO" without the quotes.

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P3- Given two strings  $S1$  &  $S2$ ,  $S2$  is rotated version of  $S1$ , if  $S2$  can be go  $S1$  without chat by taking the last  $n$  characters of  $S1$  and attaching it to beginning of nging character order. ( $S1$  is rotated by  $n$  to get  $S2$ .) Note that comparison must be case sensitive

For example:

TRIXCI is rotation of CITRIX by 4 characters ( $m=4$ ) and IXCITR is rotation of CITRIX by 2 characters ( $m=2$ ).

Input:

Each line consists of two strings  $S1$  and  $S2$  seperated by a single space.  $S1$  and  $S2$  consist only of a-zA-Z. Each string can be upto 10,000 characters long.

Output:

if  $S2$  is rotated version of  $S1$ . Then output the value  $n$  by which  $S2$  is rotated, If  $S2$  is not a rotation of  $S1$ , then output -1.

### Constraints

Each input test case will contain T lines of input where each line contains 2 string S1 and S2 separated by space.

$$1 < T < 100$$

$$1 < S1, S2 < 10,000$$

### Sample Input

CITRIX TRIXCI

BOMBAY BAYBOM

CompuTER PUTERcom

### Sample Output

4

3

-1

Explanation since we do case sensitive comparison, for 3, S1 and S2 are not rotations.

## Chronus:

Chronus @ IIT D :

It was a pen and paper written test, time 75 min

- 3-4 sections of mcq questions with 6/7 questions in each section (-ve marking is there) :  
sections were : Algo (from gate), Aptitude (one about 5 couple handshake problem), SQL  
(one about cascading delete) and a few web technology related question

- Two coding questions :

1. one was about pruning the largest BST segment expanding from the root of given binary tree.

for example :

```
1
 / \
2 3
```

here the answer would be

```
1
 \
3
```

ITS NOT FINDING LARGEST BST SUBTREE IN A BINARY TREE

2. Another question was something like this : you have two times given in HH:MM format. One is correct time. One is incorrect time. There are two buttons in the clock, how they increase or decrease the time was given. In minimum button clicks you have to make the incorrect time correct. (Someone else from IIT D please confirm, I didn't get time to read this one thoroughly)

EDIT:

Two times were given

```
int noOfClicks(char* clockTime, char* currentTime)
```

in HH:MM format.

There are two buttons to match the clock time with current time. One to increase hours and another to increase minutes.

HH count is from 00-23 and again goes to 00 if it is increased from 23. same is for minutes 00-59.

minute button is working fine but hour button is faulty. When you press hour button, it increases both hour and minute by 1.

You need to count and return the minimum no of button press to match the clock time with current time.

Ex:

clock time 03:12

curr time 04:15

no of clicks: 3

when hr button is pressed, 04:13

minute button pressed twice, 04:15

## Directi

IIT Delhi

Question 1 You were given a Binary Tree (not necessarily a Binary Search Tree) to play with, say T. T had some special properties

Each internal node in T had exactly 2 children

Each internal node in T was represented by an uppercase English alphabet (A-Z)

Each leaf node in T was represented by a lowercase English alphabet (a-z)

You were told remember T as long as you could. Hence, you memorised the string formed by traversing T in post-order. You used something similar to the pseudocode below

```
toPostOrderString (node)
```

```
if node is leaf
```

```
return node.value
```

```
else
```

```
T = ""
```

```
T = T + toPostOrderString(node.left)
```

```
T = T + toPostOrderString(node.right)
```

```
T = T + node.value
```

return T

Now, time has come to use that string again. The Eye has contacted you. Yes, the secret organisation mentioned in "Now you see me" ( don't tell anyone they are real !! )

You remember the string you memorised back then. You must reconstruct the binary tree T. You are also given a string A. All the characters of A are uppercase English alphabets. Let us assume that T has L leaves. Then, there will be exactly L paths from the root to the leaves - 1 unique path to each leaf.

You have to tell The Eye the number of paths out of L, on which, A exists as a sub-sequence. Look at the explanation for the Sample Case 1 for clarity.

You have to implement the method `explodePaths` in the code. `explodePaths` is passed the following parameters, respectively

N, the number of nodes in T

S, the string representation of the post-order traversal of T. Of course, the length of S will be equal to N.

K, the length of the string A

A, the string you must find in the paths from the root of T, to the leaves in T.

## EBay:

IITD : Shortlisting was done before written exam. Most probably the criterion was B.Tech institute ( like NITs ). The written test had 2 sections with each having a separate cut off. 1st section : 30 mins, 7 apti questions. Tough. 2nd section : 30 mins, 10 technical questions. High level of object oriented concepts and good level of java ( most of the ppl didn't know that much java ).

## Flipkart:

## Google:

## Informatica:

IITD : Round 1(40 minutes):

35 MCQs most of them from GATE 2011 and 2012.

Topics were CN,OS,DBMS,OOP

Round 2 ( 75 minutes )

Subjective : We have to give explanations of answers, write some code (compiler was not provided - write only code in text ). Not too much coding was required but thorough understanding of computer science was properly tested.

IITR : same as IITD.

## Microsoft:

## Morgan Stanley:

## Oracle:

## Qualcomm:

## Samsung:

## Symantec:

## Walmart:

Walmart Online Test Question IIT Roorkee

MCQ:

1.Sql Query is given over a small database and we need to find out natural join.

2.If two threads are incrementing a variable 100 times each without synchronization, what

would be the possible min and maximum value

Ans: min:2,Max:200...

3.a c program we need to find out complexity of code.

4.In dijkstra if use d-ary heap then complexity?

5.support and confidence for a transaction.

6.give Matrix M1:10x100 M2: 100x20 M3: 20x5 M4: 5x80 find minimum multiplication required:(gate 2011 question)

Ans : 19000

7.Expectation question  $R = E[x^2] - (E[x])^2$  is what?(gate 2011 question)

Ans :  $R \geq 0$

8. given  $f(x) = \frac{1}{x}$  for  $x = 0, 1..5$  and  $x$  is the number of cakes sold by a baker on one day. the profit is \$1.00 / cake and loss is -\$0.40/ cake then what is the number of cakes he shall bake ? note: cakes can not be stored for next day

9.linklist having a loop than some constraint is given on it we need to find out which is true.(easy one)

10.Not Remember.

11.Walmart second coding question:

we have stream of palindrome in increasing order

like:{1,2,3,4,5,6,7,8,9,11,22,33,...101,111,121,131...212,222,232,.....}and they are forming a n-digit number like:

number = 12345678911223344.....101111121131..(all palindrome in increasing order)

then we have to find the kth digit of the number.

12.Engineers at @WalmartLabs have decided to call any integer (+ve, -ve or 0) that is divisible by at least one of the single digit primes (2, 3, 5, 7) as Walprimes. Thus -21, -30, 0, 5, 14 etc are Walprimes, while -121, 1, 143 etc. are not Walprimes.

Now, consider a n-digit integer  $d_1d_2d_3..d_n$ . Between any 2 consecutive digits you can place either a (+) sign, a (-) sign or nothing. So, there are  $3^{n-1}$  different expressions that can be formed from it. Some of the expressions so formed may evaluate to a Walprime.

For example, consider the 6 digit integer 123456:  $1 + 234 - 5 + 6 = 236$ , which is a Walprime, but  $123 + 4 - 56 = 71$ , which is not a Walprime.

Your task is to write a program to find the no. of expressions (out of the possible  $3^{n-1}$  expressions) that evaluate to a Walprime, for a given input. Note that leading zeroes are valid. For example, if the input is 1202004, it can be split as  $12 + 020 - 04$  etc. Also, the

input itself can contain leading zeroes.

Input format: (Read from stdin)

The first line of input contains a single integer 'T' denoting the no. of test cases.

Each of the following 'T' lines contain a single string 's' (of length 'n') denoting an input for which you need to find the no. of valid expressions evaluating to a Walprime.

Output format: (Write to stdout)

Output exactly 'T' integers (one per line), where the ith line denotes the no. of valid expressions that evaluate to a Walprime for the ith input string. Since the output can be large, print all the quantities modulo 1000000007.

Sample testcase:

Input:

2

011

12345

Output:

6

64

Explanation:

For the first test case,  $s = "011"$ . There are  $2^{n-1} = 2^2 = 4$  valid expressions that can be formed from this string, namely  $\{0+11, 0-11, 0+1+1, 0+1-1, 0-1+1, 0-1-1, 01+1, 01-1, 011\}$ . Out of these 4 expressions, only the following 2 of them evaluate to a Walprime:  $\{0+1+1, 0+1-1, 0-1+1, 0-1-1, 01+1, 01-1\}$ .

Constraints:

There are 3 data sets.

For the first data set (5 points) -

1

For the second data set (10 points) -

1

For the third data set (15 points) -

1



## Wooqer:

Wooqer ,IIT roorkee

2 coding questions

1)Next higher number with same number of set bits

<http://www.geeksforgeeks.org/next-higher-number-with-same-number-of-set-bits/>

2)print binary tree from top to down and bottom up manner (Vertical zigzag).

50 mcqs, based on simple mathematics, algos ,os,networks .

## Yahoo: