Amazon

1. Implement a stack with push(), pop(), peek() and display()
2. Next larger element

   Example 1:
   Input:
   N = 4, arr[] = [1 3 2 4]
   Output:
   3 4 4 -1
   Explanation:
   In the array, the next larger element
   to 1 is 3 , 3 is 4 , 2 is 4 and for 4 ?
   since it doesn't exist, it is -1.

3. Edit Distance

   Given two strings **s** and **t.** Return the minimum number of operations required to convert **s** to **t**.

   Example 1:

   Input:
   s = "ycce", t = "ycsce"
   Output: 1
   Explanation: One operation is required
   inserting 's' between two 'e's of s.

   Example 2:

   Input :
   s = "gfg", t = "gfg"
   Output:
   0
   Explanation: Both strings are same.

4. Stock span problem

   Example 1:

   Input:
   N = 7, price[] = [100 80 60 70 60 75 85]
   Output:

1 1 1 2 1 4 6

Explanation:

Traversing the given input span for 100 will be 1,
80 is smaller than 100 so the span is 1,
60 is smaller than 80 so the span is 1,
70 is greater than 60 so the span is 2,
60 is smaller than 70 so the span is 1,
75 is greater than 60 so the span is 2,
85 is smaller than 75 so the span is 1,

Hence the output will be 1 1 1 2 1 2 1.

5. Single Linked list append and display

Accenture

1. **Write a function to validate if the provided two strings are anagrams or not. If the two strings are anagrams, then return 'yes'. Otherwise, return 'no'.**

   Input:
   Input 1: 1st string
   Input 2: 2nd string
   Output:
   (If they are anagrams, the function will return 'yes'. Otherwise, it will return 'no'.)

   Example
   Input 1: Listen
   Input 2: Silent
   Output:
   Yes
   Explanation
   Listen and Silent are anagrams (an anagram is a word formed by rearranging the letters of the other word)

2. **Execute the given function**.

   LargeSmallSum(arr)
   Input:
   Arr: 3 2 1 7 5 4
   Output:
   8
   Explanation
   The largest element is 7.
   The smallest element at is 1.
   The output is 8 (7+1)

3. Solve the following
   Productsmallpair(sum,arr)

   Example

   Input:
   Sum: 9
   Arr: 5 4 2 3 9 1 7
   Output:
   2
   Explanation

From the array of integers, we have to select the two smallest numbers, i.e 2 and 1. Sum
of these two (2 + 1) = 3. This is less than 9 (3 < 9). The product of these two is 2 (2 x 1 = 2) Hence the output is integer 2.

Sample input:

Sum: 4
Arr: 9 8 –7 3 9 3

Sample output:

–21

4. **Execute the given function.**

def differenceofSum(n.m)

The function takes two integrals m and n as arguments. You are required to obtain the total of all integers ranging between 1 to n (both inclusive) which are not divisible by m.
You must also return the distinction between the sum of integers not divisible by m with the sum of integers divisible by m.

Example

Input:

m = 6
n = 30

Output:

285
Integers divisible by 6 are 6, 12, 18, 24, and 30. Their sum is 90.
Integers that are not divisible by 6 are 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20,
21, 22, 23, 25, 26, 27, 28, and 29. Their sum is 375.
The difference between them is 285 (375 – 90).

5. You are required to write the code. You can click on compile & run anytime to check the compilation/ execution status of the program. The submitted code should be logically/syntactically correct and pass all the test cases.

Ques: The program is supposed to calculate the distance between three points.

For
x1 = 1 y1 = 1
x2 = 2 y2 = 4
x3 = 3 y3 = 6

Distance is calculated as : sqrt(x2-x1)2 + (y2-y1)2

Capgemini

1. Problem Statement – Raj wants to know the maximum marks scored by him in each semester. The mark should be between 0 to 100, if it goes beyond the range display “You have entered invalid mark.”

   Sample Input 1:
   ● Enter no of semester:
   3
   ● Enter no of subjects in 1 semester:
   3
   ● Enter no of subjects in 2 semester:
   4
   ● Enter no of subjects in 3 semester:
   2
   ● Marks obtained in semester 1:
   50
   60
   70
   ● Marks obtained in semester 2:
   90
   98
   76
   67
   ● Marks obtained in semester 3:
   89
   76
   Sample Output 1:
   ● Maximum mark in 1 semester:70
   ● Maximum mark in 2 semester:98
   ● Maximum mark in 3 semester:89

2. Mayuri buys “N” no of products from a shop. The shop offers a different percentage of discount on each item. She wants to know the item that has the minimum discount offer, so that she can avoid buying that and save money.

[Input Format: The first input refers to the no of items; the second input is the item name, price and discount percentage separated by comma(,)]
Assume the minimum discount offer is in the form of Integer.
Note: There can be more than one product with a minimum discount.
Sample Input 1:
4
mobile,10000,20
shoe,5000,10
watch,6000,15
laptop,35000,5

Explanation: The discount on the mobile is 2000, the discount on the shoe is 500, the discount on the watch is 900 and the discount on the laptop is 1750.
So the discount on the shoe is the minimum.

3.

Capgemini in its online written test has a coding question, wherein the students are given a string with multiple characters that are repeated consecutively. You're supposed to reduce the size of this string using mathematical logic given as in the example below:

Input :
aabbbbeeeeffggg
Output:
a2b4e4f2g3
Input :
abbccccc
Output:
ab2c5

4.

You are required to implement the following function.

Int OperationChoices(int c, int a , int b)

The function accepts 3 positive integers 'a' , 'b' and 'c ' as its arguments. Implement the function to return.

(a+ b) , if c=1

(a – b) , if c=2
(a * b) , if c=3
(a / b) , if c =4
Assumption : All operations will result in integer output.

Example:

Input
c :1
a:12
b:16
Output:
Since ‘c’=1 , (12+16) is performed which is equal to 28 , hence 28 is returned.

Sample Input
c : 2
a : 16
b : 20
Sample Output
-4

5.

You are required to implement the following function:

Int Calculate(int m, int n);

The function accepts 2 positive integer ‘m’ and ‘n’ as its arguments.You are required to calculate the sum of numbers divisible both by 3 and 5, between ‘m’ and ‘n’ both inclusive and return the same.
Note
0 < m <= n

Example
Input:
m : 12
n : 50
Output
90

Explanation:

The numbers divisible by both 3 and 5, between 12 and 50 both inclusive are {15, 30, 45} and their sum is 90.

Sample Input

m : 100

n : 160

Sample Output

510

IBM

1. Write a program to find HCF of two numbers by without using recursion.

   Input format:

   The first line contains any 2 positive numbers separated by space.

   Output format:

   Print the HCF of given two numbers.

   Sample Input:

   70 15

   Sample Output:

   5

2. Write a Program to Change Decimal Number to Binary?
3. Program to generate Fibonacci Triangle
4. Given a number x, determine whether the given number is Armstrong Number or not.
5. Given a number n, print n-th Fibonacci number

Cognizant

1.

Find the LCM of Two given numbers?
In this question you've to accept two numbers from the user for which you've to find the LCM of the given numbers. The LCM stands for Lowest Common Factor which is the smallest number that divides both the given numbers.

Sample Input 1:
5 10
Sample Output 1:
10
Sample Input 2:
20 60
Sample Output 2:
60

2.

Shraddha Kapoor's professor suggested her study hard and prepare well for the lesson on seasons. If her professor says month then, she has to tell the name of the season corresponding to that month. So write the program to get the solution to the above task?

- March to May – Spring Season
- June to August – Summer Season
- September to November – Autumn Season
- December to February – Winter Season
-

Note: The entered month should be in the range of 1 to 12. If the user enters a month less than 1 or greater than 12 then the message "Invalid Month Entered" should get displayed.

Sample Input 1:
Enter month: 6
Sample Output 1:
Season: Summer
Sample Input 2:
Enter month: 15
Sample Output 2:
Invalid Month Entered

3.

Write a program to print the prime number series from 1 to N where N is an input?
Sample Input 1:
15
Sample Output 1:

2 3 5 7 11 13
Sample Input 2:
5
Sample Output 2:
2 3 5

4.

Sanjana teaches her daughter how to find the factors of a given number. But when She provides a number to her daughter then the daughter should tell all the factors of that number correctly. So help Sanjana's daughter by writing a program?

Note: If the entered input is zero then the output should be "No Factors". And if the entered input is a negative number then first convert it to positive and then find its factors.

Sample Input 1:

Enter the positive integer: 55

Sample Output 1:

Factors of 55 are: 1 5 11 55

Sample Input 1:

Enter the positive integer-256

Sample Output 2:

Factors of 256 are: 1 2 4 8 16 32 64 128 256

5.

Darshan went to a movie with his fellow friends in a nearby theatre and during the half break, he purchased some pizzas, puffs, and cold drinks. Now consider the given prices:

- **100 Rs / Pizza**
- **20 Rs / Puffs**
- **10 Rs / Cold drink**

Write a program to generate the final bill so that darshan can pay?
Sample Input 1:
Enter the number of pizzas purchased: 10
The number of puffs purchased: 12

Enter the no of Cold Drinks purchased: 5

Sample Output 1:
Bill Details:
No of Pizzas: 10
The No of Puffs: 12
No of Cold drinks: 5
Total Price=1290

6.

Shambhu wants the magic board, which will display a character for the corresponding number in his science project. Now help him to develop such an application?

For Example: when the digits like 65, 66, 67, 68 are entered then the alphabet A B C and D will be displayed. Assume the no of inputs should be always 4

Sample Input 1:
Enter the digits:
65 66 67 68

Sample Output 1:
65-A 66-B 67-C 68-D

Sample Input 2:
Enter the digits:
115 116 101 112

Sample Output 2:
115-s 116-t 101-e 112-p

L&T

1.

Fanny's Occurences

Fanny is given a string along with the string which contains a single character x. She has to remove the character x from the given string. Help her write a function to remove all occurrences of the x character from the given string

.

Input Specification:
input1: input string s
input2: String containing any character x

Output Specification:
String without the occurrence of character x

Example 1:
input1: welcome to metti
input2: i

Output: wecome to mett
Explanation: As I is the character that is required to be removed, therefore all the occurrences of I are removed, keeping all other characters

2.

Palindrome

Problem description:
Write a function to find if a given string is a palindrome or not. Return 0 if the input string is not a palindrome and 1 if the input string is a palindrome.
Note: *A string is said to be a palindrome if the reverse of the string is the same as the string. For example, "abba" is a palindrome, but "abbc" is not a palindrome.*

Input Specification:
input1: A string of characters
Output Specification:
0 or 1 depending on whether the string is a palindrome or not.

Example 1:
input1: level
Output: 1
Explanation:
The reverse of string "level" is "level". As they are the same hence the string is a palindrome.

3.

Program to check if a given number is a strong number or not is discussed here. A strong number is a number in which the **sum of the factorial of the digits is equal to the number itself**.

$123 = 1! + 2! + 3! = 1 + 2 + 6 = 9$ ✗

$145 = 1! + 4! + 5! = 1 + 24 + 120 = 145$ ✓

4.

The program to check whether the given number is a palindrome or not. Any number is said to be a palindrome if the original number and the reverse of the original number are the same.

For example, 1234321 is a palindrome.

Original number = 1234321
The reverse of the number = 1234321

5. WAP to accept Cost Price from user and ask whether the user is a student or not. If the user is student and cost price is greater than 500, give discount of 10% ELSE discount will be 5%. If user is not student and cost price is greater 500 then give discount of 8% ELSE discount will be 2%. (Take all inputs from USER)