1.Replace every element with the greatest element on right side

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Given an array of integers, replace every element with the next greatest element (greatest element on the

right side) in the array. Since there is no element next to the last element, replace it with -1. For example,

if the array is {16, 17, 4, 3, 5, 2}, then it should be modified to {17, 5, 5, 5, 2, -1}.

2. Given a Boolean matrix mat[M][N] of size M X N, modify it such that if a matrix cell mat[i][j] is 1 then ma

ke its adjacent cells as 0.

3. Equilibrium index of an array is an index such that the sum of elements at lower indexes is equal to the

sum of elements at higher indexes. For example, in an array A:

Example :

Input: A[] = {-7, 1, 5, 2, -4, 3, 0}

Output: 3

3 is an equilibrium index, because:

A[0] + A[1] + A[2] = A[4] + A[5] + A[6]

Input: A[] = {1, 2, 3}

Output: -1

4. In MS-Paint, when we take the brush to a pixel and click, the color of the region of that pixel is replaced

with a new selected color. Following is the problem statement to do this task.

Given a 2D screen, location of a pixel in the screen and a color, replace color of the given pixel and all adj

acent same colored pixels with the given color.

Example:

Input:

screen[M][N] = {{1, 1, 1, 1, 1, 1, 1, 1},

{1, 1, 1, 1, 1, 1, 0, 0},

{1, 0, 0, 1, 1, 0, 1, 1},

{1, 2, 2, 2, 2, 0, 1, 0},

{1, 1, 1, 2, 2, 0, 1, 0},

{1, 1, 1, 2, 2, 2, 2, 0},

{1, 1, 1, 1, 1, 2, 1, 1},

{1, 1, 1, 1, 1, 2, 2, 1},

};

x = 4, y = 4, newColor = 3

The values in the given 2D screen indicate colors of the pixels.

x and y are coordinates of the brush, newColor is the color that

should replace the previous color on screen[x][y] and all surrounding

pixels with same color.

Output:

Screen should be changed to following.

screen[M][N] = {{1, 1, 1, 1, 1, 1, 1, 1},

{1, 1, 1, 1, 1, 1, 0, 0},

{1, 0, 0, 1, 1, 0, 1, 1},

{1, 3, 3, 3, 3, 0, 1, 0},

{1, 1, 1, 3, 3, 0, 1, 0},

{1, 1, 1, 3, 3, 3, 3, 0},

{1, 1, 1, 1, 1, 3, 1, 1},

{1, 1, 1, 1, 1, 3, 3, 1},

};

5. Given a matrix of 2D array of n rows and m coloumns. Print this matrix in ZIG-ZAG fashion as shown in

figure.

Example:

Input:

1 2 3

4 5 6

7 8 9

Output:

1 2 4 7 5 3 6 8 9

6. Remove the duplicates in the String.

Testcase 1:

Input: Java1234

Output: Javb1234 (Remove the second ‘a’ as it is duplicated)

Testcase 2:

Input: Python1223:

Output: Python1234 (Replace the second 2 with 3, and replace 3 with 4 as 3 is replaced for the duplicated

2)

Testcase 3:

Input: aBuzZ9900

Output: aBuzC9012

(Replace the second ‘Z’ with ‘C’ as ‘a’ and ‘B’ are already there in the String. Replace with capital C as th

e letter to be replaced is capital Z. The second 9 turns out to be zero and the zero turns out to ‘1’ and the

second zero turns out to ‘2’)

7. Print whether the version is upgraded, downgraded or not changed according to the input given.

example: Input : Version1 4.8.2 Version2 4.8.4 Output: upgraded, Input : Version1 4.0.2 Version2 4.8.4 O

utput: downgraded

8. Q2. Print all possible subsets of the given array whose sum equal to given N.

example: Input: {1, 2, 3, 4, 5} N=6 Output: {1, 2, 3}, {1, 5}, {2, 4}

9. Reverse the words in the given String1 from the first occurrence of String2 in String1 by maintaining wh

ite Spaces.

example: String1 = Input: This is a test String only String2 = st Output: This is a only String test

10. calculate Maximum number of chocolates can eat and Number of wrappers left in hand.

Money: Total money one has to spend.

Price: price per chocolate.

wrappers: minimum number of wrappers for exchange choco: number of chocolate for wrappers.

Max visit: Maximum number of times one can visit the shop.(if zero consider it infinite)

example: input: Money:40 Price:1 wrappers:3 choco:1 Max visit:1 Output: total chocolate can eat: 53 wrap

pers left in hand:14

11.

Sample Input-

2

Hacker

Rank

Sample Output-

Hce akr

Rn ak

2.

Sample Input-

13.Print the word with odd letters – PROGRAM

Sample Output-

P P

R R

O O

G

R R

A A

M M

14.

Sample Input – Alternate Sorting

Input: {1, 2, 3, 4, 5, 6, 7}

output: {7, 1, 6, 2, 5, 3, 4}

15.Given an array of values persons[], each represents the weight of the persons. There will be infinite bik

es available. Given a value K which represents the maximum weight that a bike accommodates. Along wit

h that one more condition, a bike can carry two persons at a time. You need to find out the least number o

f times, the bike trips are made.

16.Assume there exists infinite grid, you’re given initial position x, y. Inputs will be movements either L or

R or U or D. After n inputs, you need to give the current position.

• Input:

• 4 5 //initial position x, y

• 9 //number of movements

• U L R R D D U L R //7 movements

• Output:

5 5

• Given a matrix NxN, you are initially in the 0, 0 position. The matrix is filled with ones and zeros. Value “

one” represents the path is available, while “zero” represents the wall. You need to find the can you able t

o reach the (N-1)x(N-1) index in the matrix. You can move only along the right and down directions if ther

e’s “one” available.

• Input:

• 5 //N value

• 1 0 1 0 0

• 1 1 1 1 1

• 0 0 0 1 0

• 1 0 1 1 1

• 0 1 1 0 1

• Output:

Yes

17.Given an array of integers, compute the maximum value for each integer in the index, by either summi

ng all the digits or multiplying all the digits. (Choose which operation gives the maximum value)

• Input:

• 5

• 120 24 71 10 59

• Output:

• 3 8 8 1 45

Explanation: For index 0, the integer is 120. Summing the digits will give 3, and whereas Multiplying the di

gits gives 0. Thus, maximum of this two is 3.

. 18. -1 represents ocean and 1 represents land find the number of islands in the given matrix.

Input: n\*n matrix

1 -1 -1 1

-1 1 -1 1

-1 -1 1 -1

-1 -1 -1 1

Output: 2 (two islands that I have

bold in matrix at 1, 1 and 2, 2)

19. Print all the possible subsets of array which adds up to give a sum.

Input: array{2, 3, 5, 8, 10}

sum=10

Output: {2, 3, 5}

{2, 8}

{10}

20. There is a circular queue of processes. Every time there will be certain no of process skipped and a p

articular start position. Find the safe position.

Input: Number of process:5

Start position:3

Skip: 2nd

Output: 1 will be the safest position

(Logic: 1 2 3 4 5 starting from 3, 5th process will be skipped

1 2 3 4 5 process 2 will be skipped

1 2 3 4 5 process 4 will be skipped

1 2 3 4 5 process 3 will be skipped, so safest process is 1.

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21.Given N. print the following snake pattern (say N = 4). condition: must not use arrays ( 1D array or 2D

array like Matrix ).

1 2 3 4

8 7 6 5

9 10 11 12

16 15 14 13

22.Given N. print the Latin Matrix (say N = 3). condition: must not use strings(aka character literals), arra

ys (both 1D and 2D), inbuilt functions(like rotate).

A B C

B C A

C A B

23. Given a number N. find the minimum count of numbers in which N can be represented as a sum of n

umbers x1, x2, … xn. where xi is number whose digits are 0s and 1s.

example 1) i/p : N = 33

o/p : count = 3. 33( 11 + 11 + 11 )

some other possibilities of 33 is (11 + 11 + 10 + 1), (11 + 10 + 10 + 1 + 1 ), (10 + 10 + 10 + 1 + 1 + 1)

24. Finding all permutations of a string. ( backtracking approach ).

25. Given an array of integers, write a program to re-arrange the array in the given form.

1st\_largest, 1st\_smallest, 2nd\_largest, 2nd\_smallest, 3rd\_largest ……. etc.