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 make 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 adjacent 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 the 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 Output: 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 white 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 wrappers 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 bikes available. Given a value K which represents the maximum weight that a bike accommodates. Along with that one more condition, a bike can carry two persons at a time. You need to find out the least number of 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 to reach the (N-1)x(N-1) index in the matrix. You can move only along the right and down directions if there'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 summing 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 digits 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 particular 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.

.

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), arrays (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 numbers 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.

26. Sort the given elements in decending order based on the number of factors of each element – Solution 1

27. Find whether the given number is palindrome or not. Don't use arrays or strings

28. Reverse the given string keeping the position of special characters intact

29. Find the shortest path from one element to another element in a matrix using right and down moves alone. The attached solution uses moves in all directions. – Solution 4

30. Pattern

31. 1. Pangram Checking

Check whether all english alphabets are present in the given sentence or not

I/P: abc defGhi JklmnOP QRStuv wxyz

O/P: True

I/P: abc defGhi JklmnOP QRStuv

O/P: False

32. Password Strength

Find the strength of the given password string based on the conditions

Four rules were given based on the type and no. of characters in the string.

Weak – only Rule 1 is satisfied or Rule 1 is not satisfied

Medium – Two rules are satisfied

Good – Three rules satisfied

Strong – All Four rules satisfied

I/P: Qw!1   O/P: Weak

I/P: Qwertyuiop   O/P: Medium

I/P: QwertY123   O/P: Good

I/P: Qwerty@123   O/P: Strong

33. First Occurrences

Given two strings, find the first occurrence of all characters of second string in the first string and

print the characters between the least and the highest index

I/P: ZOHOCORPORATION PORT

O/P: OHOCORPORAT

Explanation: The index of P in first string is 7, O is 1, R is 6 and T is 11. The largest range is 1 – 11.

So print the characters of the first string in this inex range i.e. OHOCORPORAT

34. Matrix Diagonal sum

Given a matrix print the largest of the sums of the two triangles split by diagonal from top right to bottom left

I/P:

3 3

1 2 3

4 5 6

7 8 9

O/P: 38

35. Matrix Addition

Given n integer arrays of different size, find the addititon of numbers represented by the arrays

I/P: 4

3 5 4 2

2 4 5

4 5 6 7 8

4 9 2 1

1 2

O/P: 50856

Problem 36:

Many students will able to solve 3 problems in this round. So make sure you stand apart from the crowd.Their vacancy is going to be 5 for a team. The performance in this round could be taken as a tie breaker for round 3.

input : aaabbcc

output : abc

Problem 37.:

Evaluate the expression and sort and print the output. Getting the input is the tricky part

Input:

Number of input : 4

2*3

2^2^2

35

3*1

Output:

3*1

2*3

2^2^2

35

Problem 38:

Given a 6 blocks, of different height h1, ..., h6 . Make 2 towers using 3 Blocks for each tower in desired height h1, h2. Print the blocks to be used in ascending order

Input:

1 2 5 4 3 6

height of tower: 6 15

Output :

1 2 3 & 4 5 6

Problem 39:

Given a 5X5 chess board as input. 9 knights are placed in the board. Print whether the configuration valid or Invalid.

Problem 40:

Given a number, print all the code that can be formed with z={a=1, .., z=26}.

1123

{1, 1, 2, 3} = aabc

{11, 2, 3} = kbc

{1, 1, 23} = aaw

{11, 23} = kw

41.Given a String with or without special characters find if it is Palindrome or Not.. No splitting of array must be done or No additional spaces must be used for storing the array..

Eg: RACE CAR

Eg: I DID, DID I ?

42. Given an array of integers of size n. Convert the array in such a way that if next valid number is same as current number, double its value and replace the next number with 0. After the modification, rearrange the array such that all 0's are shifted to the end.

Input : arr[] = {2, 2, 0, 4, 0, 8}

Output : 4 4 8 0 0 0

Input : arr[] = {0, 2, 2, 2, 0, 6, 6, 0, 0, 8}

Output : 4 2 12 8 0 0 0 0 0 0

43 . TWISTED PRIME NUMBER

A number is said to be twisted prime if it is a prime number and reverse of the number is also a prime number.

Input : 97

Output : Twisted Prime Number

Explanation: 97 is a prime number

and its reverse 79 is also a prime

number.

44.Given an array A[] and a number x, check for pair in A[] with sum as x.

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

SUM : 5

Output : 2 (1, 4) & (2, 3)

45.Largest Sum Contiguous Subarray

(Kadane' Algorithm)

46.Diamond pattern : for given input size -> Here 3

```
  *
 ***
*****
 ***
  *
```

46. Given a text and a wildcard pattern, implement wildcard pattern matching algorithm that finds if wildcard pattern is matched with text. The matching should cover the entire text (not partial text).

The wildcard pattern can include the characters '?' and '*'

'?' – matches any single character

'*' – Matches any sequence of characters (including the empty sequence)

Example:

Text = "baaabab",

Pattern = "*****ba*****ab",

output : true

Pattern = "baaa?ab", output : true

Pattern = "ba*a?", output : true

Pattern = "a*ab", output : false

47. Given an input string and a dictionary of words, find out if the input string can be segmented into a space-separated sequence of dictionary words. See following examples for more details.

Consider the following dictionary

{ i, like, sam, sung, samsung, mobile, ice,

 cream, icecream, man, go, mango}

Input: ilike

Output: Yes

The string can be segmented as "i like".

Input: ilikesamsung

Output: Yes

The string can be segmented as "i like samsung"

or "i like sam sung".<>

48.Print the following pattern

```
   1

  3 2

 6 5 4

10 9 8 7

10 9 8 7

 6 5 4

  3 2

   1
```

49.Given an array as input, The condition is if the number is repeated you must add the number and put the next index value to 0. If the number is 0 print it at the last.

Eg: arr[] = { 0, 2, 2, 2, 0, 6, 6, 0, 8}

Output: 4 2 12 8 0 0 0 0 0 .

49. Given two Strings s1 and s2, remove all the characters from s1 which is present in s2.

Input: s1="expErIence", s2="En"

output: s1="exprIece"

50.Find the next greater element for each element in given array.

input: array[]={6, 3, 9, 10, 8, 2, 1, 15, 7};

output: {7, 5, 10, 15, 9, 3, 2, _, 8}

If we are solving this question using sorting, we need to use any O(nlogn) sorting algorithm.

51.Print all distinct permutations of a given string with duplicate characters.

https://www.geeksforgeeks.org/distinct-permutations-string-set-2

52.Given a number, find the next smallest palindrome.

53.Given an array with repeated numbers, Find the top three repeated numbers.

input: array[]={3, 4, 2, 3, 16, 3, 15, 16, 15, 15, 16, 2, 3}

output: 3, 16, 15

54.Given two dimensional matrix of integer and print the rectangle can be formed using given indices and also find the sum of the elements in the rectangle

Input: mat[M][N] = {{1, 2, 3, 4, 6}, {5, 3, 8, 1, 2}, {4, 6, 7, 5, 5}, {2, 4, 8, 9, 4} };

index = (2, 0) and (3, 4)

Output:

Rectangle

4 6 7 5 5

2 4 8 9 4

sum 54

55. Find the result subtraction, multiplication, division of two integers using + operator.

Input: 6 and 4

output:

addition 6+4 = 10,   subtraction 6+(-4) = 2,   multiplication = 24,   division = 1

Input : -8 and -4

Output:

addition -8+(-4) = -12,   subtraction (-8)+(-(-4)) = -4,   multiplication = 32,   division = 2

56..Given a sentence of string, in that remove the palindrome words and print the remaining.

Input:

He did a good deed

Output:

He good

Input:

Hari speaks malayalam

Output:

Hari speaks

57..Given two dates, find total number of days between them.

Input: dt1 = {10, 2, 2014} dt2 = {10, 3, 2015}

Output: 393

dt1 represents "10-Feb-2014" and dt2 represents "10-Mar-2015" The difference is 365 + 28

Input: dt1 = {10, 2, 2000} dt2 = {10, 3, 2000}

Output: 29

Note that 2000 is a leap year

Input: dt1 = {10, 2, 2000} dt2 = {10, 2, 2000}

Output: 0

Both dates are same

Input: dt1 = {1, 2, 2000}; dt2 = {1, 2, 2004};

Output: 1461

Number of days is 365*4 + 1

58.

Let 1 represent 'A', 2 represents 'B', etc. Given a digit sequence, count the number of possible decodings of the given digit sequence.

Examples:

Input: digits[] = "121"

Output: 3 // The possible decodings are "ABA", "AU", "LA"

Input: digits[] = "1234" Output: 3

// The possible decodings are "ABCD", "LCD", "AWD"

59.. Print all possible words from phone digits

60. Print longest sequence between same character

Ex I/p abcccccbba

O/p 8 (from a to a)

I/p aaaaaaaa

O/p 6

61..sort the array odd numbers in ascending and even numbers in descending.

I/p 5 8 11 6 2 1 7

O/p 1 5 7 11 8 6 2

62. It's about anagram.i/p was array of strings .and a word was given to find whether it has anagram in given array.

I/p catch, got, tiger, mat, eat, Pat, tap, tea

Word: ate

O/p eat, tea

63.array of numbers were given to find a number which has same sum of numbers in it's either side.

I/p 1, 2, 3, 7, 6

O/p 7(has 1+ 2+3 in left 6 in right)

64.prime number – print n prime numbers

65.prime factor – sort the array based on the minimum factor they have.

66.adding a digit to all the digits of a number eg digit=4, number = 2875, o/p= 612119

67.form the largest possible number using the array of numbers.

68.lexicographic sorting.

69.given a set of numbers, and a digit in each iteration, if the digit exists in any of the numbers, remove its occurrences and ask for the next digit till the list becomes empty.

70.Check if a number 'a' is present in another number 'b.

71. Find the extra element and its index

Input : [10, 20, 30, 12, 5]

[10, 5, 30, 20]

Output : 12 is the extra element in array 1 at index 4

Input : [-1, 0, 3, 2]

  [3, 4, 0, -1, 2]

Output : 4 is the extra element in array 3 at index 5

72. Find the least prime number that can be added with first array element that makes them divisible by second array elements at respective index (check for prime numbers under 1000, if exist return -1 as answer) & (Consider 1 as prime number)

Input : [20, 7]

  [11, 5]

Output : [1, 3]

Explanation :

(20 + ?) % 11

(7 + ?) % 5

73. Sort the array elements in descending order according to their frequency of occurrence

Input : [2 2 3 4 5 12 2 3 3 3 12]

Output : 3 3 3 3 2 2 2 12 12 4 5

Explanation : 3 occurred 4 times, 2 occurred 3 times, 12 occurred 2 times, 4 occurred 1 time, 5 occurred 1 time

Input : [0 -1 2 1 0]

Output : 0 0 -1 1 2

Note : sort single occurrence elements in ascending order

74. Print true if second string is a substring of first string, else print false.

Note : * symbol can replace n number of characters

Input : Spoon Sp*n Output : TRUE

  Zoho   *o*o Output : TRUE

  Man   n*   Output : FALSE

Subline line   Output : TRUE

75.Print second frequently occurring number in given series

Example :

Input: 1 1 2 3 1 2 4

Output: 2

Explanation: 1 occurs 3 times, 2 occurs 2 times, 3 occurs 1 time and 4 occurs 1 time. Hence second frequently occurring number in given series is 2

76.Print only numbers which is present in Fibonacci series (0 1 1 2 3 5 8 ……..)

Example:

Input: 2 10 4 8

Output: 2 8

Input: 1 10 6 8 13 21

Output: 1 8 13 21

77.. Print pattern like this

Example:

Input: 1

Output: 0

Input: 2

Output:

0 0

0 1

1 0

1 1

Input: 3

Output:

0 0 0

0 0 1

0 1 0

0 1 1

1 0 0

1 0 1

1 1 0

1 1 1

78. NxN matrix will be provided. 0->block, 1->Not a block

Always starting point is (0,0), Ending point is (N-1,N-1).

You have to go from starting point to ending point. One valid solution is enough.

Example:

Input:

N=4

1 1 0 0

1 0 0 1

1 1 1 1

0 0 0 1

Output:

_ 1 0 0

_ 0 0 1

_ _ _ _

0 0 0_

79.. Insert 0 after consecutive (K times) of 1 is found.

Example:

Input:

Number of bits: 12

Bits: 1 0 1 1 0 1 1 0 1 1 1 1

Consecutive K: 2

Output:

1 0 1 1 0 0 1 1 0 0 1 1 0 1 1 0

80. Find the maximum of three numbers?

81. Print the total number of odd and even digits in the given number.

Ex. Input : 1234567

Output : ODD 4

    EVEN 3

82. Find the second maximum among the given numbers.

Ex. INPUT :

Size of Array : 8

Enter the elements : 2 5 1 6 2 6 7 10

OUTPUT :

7

Ex. INPUT :

Size of Array : 4

Enter the elements : 4 1 2 2

OUTPUT :

2

Ex. INPUT :

Size of Array : 1

Enter the elements : 1

OUTPUT :

No second maximum

83. Print the following pattern

Ex. INPUT : 5

OUTPUT :

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

Ex. INPUT : 7

OUTPUT :

```
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
 1 5 10 10 5 1
1 6 15 20 15 6 1
```

84. Given a two dimensional array which consists of only 0's and 1's. Print the matrix without duplication.

Ex. INPUT :

Enter Row Size   : 4

Enter column size : 3

Enter the matrix :

1 0 1

1 1 0

1 1 1

1 0 1

OUTPUT :

Unique Matrix :

1 0 1

1 1 0

1 1 1

85. Given an array of positive numbers. Print the numbers which have longest continuous range.

Ex. INPUT :

Enter array size : 8

Enter arryay elements : 1 3 10 7 9 2 4 6

OUTPUT :

1 2 3 4

Ex. INPUT :

Enter array size : 8

Enter arryay elements : 1 3 9 7 8 2 4 6

OUTPUT :

1 2 3 4

6 7 8 9

86. Given two arrays. Find its union.

Input :

Enter size of first array : 6

Enter the elements : 1 2 3 4 5 3

Enter size of second array : 4

Enter the elements : 1 2 7 5

OUTPUT :

1 2 3 4 5 7

8. Given an array of numbers. Print the numbers without duplication.

INPUT :

Enter the array size : 4

Enter the elements : 1 1 2 4

OUTPUT :

1 2 4

88. Given an array of numbers and a number k. Print the maximum possible k digit number which can be formed using given numbers.

INPUT :

Enter the array size : 4

Enter the elements : 1 4 973 97

Enter number of digits : 3

OUTPUT :

974

INPUT :

Enter the array size : 6

Enter the elements : 1 4 89 73 9 7

Enter number of digits : 5

OUTPUT :

98973

89. Given an array of numbers and a window of size k. Print the maximum of numbers inside the window for each step as the window moves from the beginning of the array.

INPUT :

Enter the array size : 8

Enter the elements : 1,3,5,2,1,8,6,9

Enter the window size : 3

OUTPUT :

5 5 5 8 8 9

90: Given a string, reverse only vowels in it; leaving rest of the string as it is.

Input : abcdef

Output : ebcdaf

91 : Write a program to check if the given words are present in matrix given below. The words can be left to right, top to bottom and the diagonals (in top to bottom direction)

92 : Write a program to form lines using given set of words. The line formation should follow below rules.

i) Total characters in a single line excluding the space between the words and the favorite character should not exceed the given number.

ii) Favorite character is case insensitive.

iii) Words should not be broken up. Complete words alone should be used in a single line. A word should be used in one line only.

Input : Max char per line = 10

    Favorite character = 'o'

    Words : Zoho, Eating, Watching, Pogo

      Loving, Mango

Output : Watching Zoho

   Eating Mango

   Loving Pogo.

93. Adding 2 numbers

Given 2 huge numbers as separate digits, store them in array and process them and calculate the sum of 2 numbers and store the result in an array and print the sum.

Input:

Number of digits:12

9 2 8 1 3 5 6 7 3 1 1 6

Number of digits:9

7 8 4 6 2 1 9 9 7

Output :

9 2 8 9 2 0 2 9 5 1 1 3

94.Given sorted array check if two numbers sum in it is a given

value

Input

Array = {1 3 4 8 10 } N = 7

output

true

95. Compiuting value of sin (x)

Input x = 30 n = 10

output = 0.5

Hint : The equation sin(x) = x – x^3 / 3! + x^5 / 5! – ….

96. Write function to find multiplication of 2 numbers using +

operator You must use minimum possible iterations.

Input: 3 , 4

Output 12

97. Given array find maximum sum of contiguous sub array

{-2 -3 4 -1 -2 1 5 -3}

output 7 elements [4 -1 -2 1 5]

98. Given unsorted array find all combination of the element for a given sum. Order should be maintained.

Input :

8 3 4 7 9 N=7

Output

{3 4 } {7}

99. Given an odd length word which should be printed from the middle of the word.

The output should be in the following pattern.

Example:

Input: PROGRAM

Output:

      G

      GR

     GRA

    GRAM

   GRAMP

  GRAMPR

GRAMPRO

100. It is a program to implement Least Recently Used (LRU) concept. Given a key, if it is already existed then it should be marked as recently used otherwise a value should be stored which is given as input and marked as recently used. The capacity

is to store only 10 key, value pairs. If the table is full and given a new key; the key, value pair which is not recently used should be deleted which gives feasibility to store the new key, value pair.

101. Given a few pairs of names in the order child, father. The input is a person name and level number. The output should be the number of children in that particular level for the person given.

Example:

Input:

[

{Ram, Syam},

{Akil, Syam},

{Nikil, Ram},

{Subhash, Ram},

{Karthik, Akil}

];

Syam 2

Output: 3 (Syam has Ram and Akil in level 1 and in level 2 he have Nikil, Subhash, Karthik. So the answer is 3).

101 Given an array of positive integers. The output should be the number of occurrences of each number.

Example:

Input: {2, 3, 2, 6, 1, 6, 2}

Output:

1 – 1

2 – 3

3 – 1

6 – 2

102) Given an array, find the minimum of all the greater numbers for each element in the array.

Sample:

Array : {2, 3, 7, ¬1, 8, 5, 11}

Output:

{2¬>3, 3¬>5, 7¬>8, ¬1¬>2, 8¬>11, 5¬>7, 11¬>}

103) Find the largest sum contiguous subarray which should not have negative numbers. We have to print the sum and the corresponding array elements which brought up the

sum.

Sample:

Array : {¬2, 7, 5, ¬1, 3, 2, 9, ¬7}

Output:

   Sum : 14

   Elements : 3, 2, 9

104) Given a string, we have to reverse the string without changing the position of punctuations and spaces.

Sample: house no : 123@ cbe

Output: ebc32 1o : nes@ uoh

105) Given a 2D grid of characters, you have to search for all the words in a dictionary by

moving only along two directions, either right or down. Print the word if it occurs.

Sample :

 a z o l

 n x h o

 v y i v

 o r s e

 Dictionary = {van, zoho, love, are, is}

Output:

zoho

love

Is

106) Given a string, change the order of words in the string (last string should come first).

Should use RECURSION

Sample: one two three

Output : three two one