

GVP Typeface Test

Note: Answers to each question must be saved in a file prefixed with question number. For example, If I am writing code in c the files in the github would be 1.c, 2.c, 3.c, 4.c and 5.txt

Question1:

Given an integer as input. Write a function to convert that to base 3 number

Input: 10

Output: 101

Question2:

Given two strings as input, find number of occurrences of last character in second string, in the first string. Don't use string library functions for this program

Input: "going to go to goa", "go"

Output: 5 (last char of str2 is o and it appeared 5 times in str1)

Question3:

An LCD (Liquid Crystal Display) can represent multiple digits between 0 to 9

If you turn the LCD upside-down, some of the numbers still remain valid numbers. For example, 16 becomes 91, 10 becomes 01, which are valid numbers.

If you index all positive numbers (>0) that can produce valid numbers when you upside down the display (like 1st one is 1, 2nd one is 2, 3rd one 5... 7th one is 10),

Write program to print the 'Nth' number in the series

Input: 8

Output: 11

LED display of numbers can be found

here: <https://cdn.vectorstock.com/i/1000x1000/38/08/digital-numbers-digits-display-vector-22893808.webp>

Question4:

Given a matrix of 0's and 1's of size 256x256, write a program to print minimum sized sub-rectangle which includes all 0's of the matrix. Function needs to return the 4 corners of the

minimum sized sub-rectangle.

Input:

1 0 0 1 1

1 0 0 0 1

1 0 0 1 1

1 1 1 1 1

Output

(0,1), (0, 3), (2, 1), (2, 3)

Question5:

Write a design document on how to crawl a website site and save the images and text from the website. Write your thoughts on how you will approach the problem along with components you need.

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4. Github Link *

<https://github.com/Udayk02/typeface>

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