Lab Final

CSE 4108

Structured Programming I Lab

November 2023

Lab Tasks

1. A self-dividing number is a number that is divisible by every digit it contains. For example, 128 is a self-dividing number because $128\%1 == 0$, $128\%2 == 0$, and $128\%8 == 0$. A self-dividing number is not allowed to contain the digit zero. Given two integers `left` and `right`, return a list of all the self-dividing numbers in the range [`left`, `right`]. Here, $1 \leq left \leq right \leq 10^4$.

Input

```
1 22
```

Output

```
1 2 3 4 5 6 7 8 9 11 12 15 22
```

2. You are given a string `'s'` of lowercase English letters (without any space) and an array of 26 integers called `'widths'` denoting how many pixels wide each lowercase English letter is. Specifically, `widths[0]` is the width of `'a'`, `widths[1]` is the width of `'b'`, and so on.

You are trying to write `'s'` across several lines, where each line is no longer than 100 pixels. Starting at the beginning of `'s'`, write as many letters on the first line such that the total width does not exceed 100 pixels. Then, from where you stopped in `'s'`, continue writing as many letters as you can on the second line. Continue this process until you have written all of `'s'`.

Your task is to output two variables:

`res_1` is the **total number of lines**.
`res_2` is the **width** of the last line in pixels.

Input:

```
s = "abcdefghijklmnopqrstuvwxyz"
widths=
[10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10]
```

Output: `3,60`