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Let's discuss the problems first ;)

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- Hence $n_i = k^{i-1} \frac{n}{1+k+k^2+k^3}$

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```
startupRevenue l = aux (sort l) (length l)
  where
    aux [x] 1 = x
    aux (x:xs) n = max (x*n) (aux xs (n-1))
```

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  1. If a is prime, return 1
  2. If a is even, return 2
  3. If a is odd... and a is the sum of two primes, one of the summands must be 2 since a is odd. Hence:
     3.1 If $a - 2$ is prime, return 2.

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  1. If a is prime, return 1
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  3. If a is odd... and a is the sum of two primes, one of the summands must be 2 since a is odd. Hence:
     - 3.1 If $a - 2$ is prime, return 2.
     - 3.2 Otherwise return 3 since $a - 3$ is even.

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- Only valid sequences seperated by *R*s remain. Select and count the longest of those.

Helping Rudolph

```
compress s = foldl' compress1 [] s

compress1 s                          'R' = Open:s
compress1 (Comp k:Open:Comp n:s) 'L' = Comp (k + n + 2):s
compress1 (Open:Comp n:s)        'L' = Comp (n + 2):s
compress1 (Comp n:Open:s)        'L' = Comp (n + 2):s
compress1 (Open:s)               'L' = Comp 2:s
compress1 s                      'L' = Close:s
compress1 s                       _  = s
```

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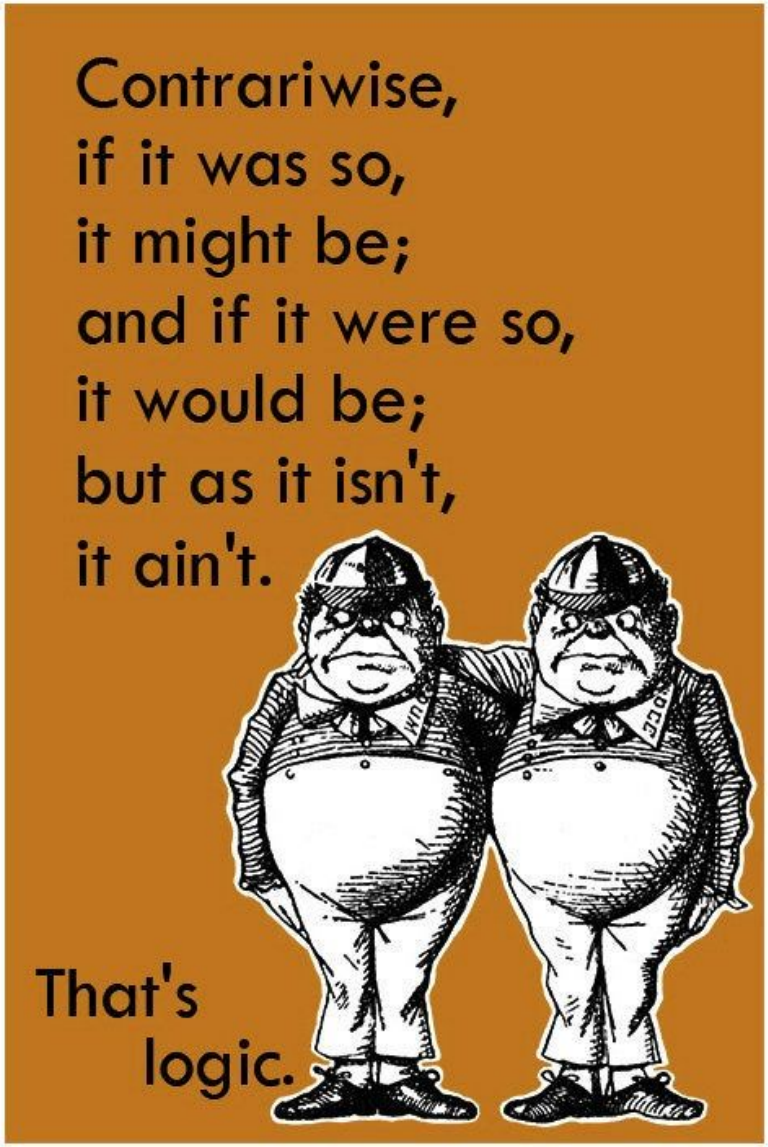
- Keep track of already visited positions in another Map to check for loops.

Terrible Poetry



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- Check for cycles using a Union-Find data structure.
- Alternative: use Prim's algorithm.

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Congratulations everyone!

Thanks for joining – see you on Friday!