

Day43 - March 19th 2024

1. Started my day as usual
2. Headed to library at 8:15am
3. Started Solving problems on leetcode

The screenshot shows a web browser window with the LeetCode website. The URL is `leetcode.com/problems/fruit-into-baskets/solutions/4898010/dry-run-python3/`. The page displays a solution for the 'Fruit Into Baskets' problem, specifically a 'Dry Run' in Python3. The solution is by a user named 'OnlyGrind' and was posted 'a few seconds ago'. The problem tags are 'Python3', 'Array', and 'Hash Table'. The 'Dry Run' section shows the step-by-step execution of the code for the test case `[1,2,4,2,2]`. It starts with `Res = 0, hashmap = {}` and `L = 0`. For `r = 0`, `Res = max(0, 0-0+1) = 1`. For `r = 1`, `hashmap = {1:1, 2:1}` and `Res = max(1, 1-0+1) = 2`. For `r = 2`, `hashmap = {1:1, 2:1, 4:1}` and `Res = max(2, 2-1+1) = 2`. The 'Code' section shows the Python3 code for the solution, which uses a sliding window approach with a hash map to track the number of fruits in the current basket. The code is as follows:

```
1 class Solution:
2     def totalFruit(self, fruits: List[int]) -> int:
3         res, hashmap = 0, defaultdict(int)
4
5         l = 0
6         for r in range(len(fruits)):
7             hashmap[fruits[r]] += 1
8
9             if len(hashmap) > 2:
10                 hashmap[fruits[l]] -= 1
11                 if hashmap[fruits[l]] == 0:
12                     del hashmap[fruits[l]]
13                 l += 1
14
15             res = max(res, r-l+1)
16
17         return res
18 # EXMPLE -
19 # 0(n) time. O(3) space.
```

The 'Testcase' section shows the input `fruits = [1,2,1]` and the output `3`. The bottom of the screenshot shows the Windows taskbar with the date and time as 12:40 PM on 3/19/2024.

4. Also added dry run for the code
5. Created some notes for this leetcode problem : [DSA March19th 2024](#)

## 6. Spent some time for building my github

Day6\_Grind.pdf Day6-Feb 11th 2024 last month

Day7\_Grind.pdf Day7-Feb 12th 2024 last month

Day8\_Grind.pdf Day8-Feb 13th 2024 last month

Day9\_Grind.pdf Day9-Feb 14th 2024 last month

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README.md

Hi There 🙋 ,

In this Grind Series you'll see me

1. Solving atleast one problem on Leetcode or Hackerrank
2. How I spend my entire day
3. UpSkilling myself in data engineering tools and concepts
4. Solving a complex SQL question daily with clear explanations provided

To prove my authenticity, just check the dates on the screenshots attached in the docs. Will also be uploading all the notes I've prepared while learning data engineering in a separate folder.

Started leetcoding from feb6th 2024 Leetcode : <https://leetcode.com/OnlyGrind/> Hackerrank : <https://www.hackerrank.com/profile/kaushikvarman>

The reason why i started this series is to show you guys how i am improving myself day by day. I work harder. I push myself everyday and refuse to let any obstacle stand in my way. I wont rest until i get a job. I'll make this comeback very personal.

Self-discipline

## 7. Ended my day by solving complex SQL problem from Ankit's YT

SQLQuery1.sql - KAUSHI\SQLEXPRESS:master (KAUSHI\jamka (66)) - Microsoft SQL Server Enterprise Manager

Object Explorer

SQLQuery1.sql - K:\KAUSHI\jamka (66) \*

```
select * from customers;

with cte as(
select *,len(customer_name)-len(replace(customer_name,' ','')) as no_of_spaces
,charindex(' ',customer_name) as first_space_position
,charindex(' ',customer_name,charindex(' ',customer_name)+1) as second_space_position
from customers)
select *,
case when no_of_spaces = 0 then customer_name
else SUBSTRING(customer_name,1,first_space_position-1) end as first_name,
case when no_of_spaces <= 1 then null
else substring(customer_name,first_space_position+1,second_space_position-first_space_position-1) end as middle_name,
case when no_of_spaces = 0 then null
when no_of_spaces = 1 then SUBSTRING(customer_name,first_space_position+1,len(customer_name)-first_space_position)
when no_of_spaces = 2 then SUBSTRING(customer_name,second_space_position+1,len(customer_name)-second_space_position) end as last_name
from cte

/* Explanation:
Step1 : First we have found no_of_spaces in the customer name using len(customer_name)-len(replace(customer_name,' ',''))
len of customer_name - len of customer_name with out spaces
Step2 : Next We found Index of space in the customer_name using charIndex().we can easily get first_space_position
Step3 : To get the second_space_position if there's any..we use charIndex(' ',from first_space_position) and we
will frame it in one CTE
Step4 : Now if no_of_spaces = 0 then retrieve customer_name as there are no middle and last name
Step5 : When no_of_spaces <= 1 then null as there are no middle_name..
else retrieve middle_name using substring(customer_name,first_space_position+1,second_space_position-first_space_position-1)
Step6 : When no_of_spaces = 0 then last_name is null
else when no_of_spaces = 1 then retrieve SUBSTRING(customer_name,first_space_position+1,len(customer_name)-first_space_position)
gives last_name if there's one space in customer_name
else when no_of_spaces = 2 then retrieve SUBSTRING(customer_name,second_space_position+1,len(customer_name)-second_space_position)
gives last_name if there's two space in customer_name
```

Results

customer_name	no_of_spaces	first_space_position	second_space_position	first_name	middle_name	last_name
Ankit Bansal	1	6	0	Ankit	NULL	Bansal
Vishal Pratap Singh	2	7	14	Vishal	Pratap	Singh
Michael	0	0	0	Michael	NULL	NULL

Query executed successfully.

KAUSHI\SQLEXPRESS (16.0 RTM) KAUSHI\jamka (66) master 00:00:00 3 rows