Welcome to Leetcode Study Group!

Before we begin...

- Session materials:
  https://github.com/WomenWhoCode/WWCodePython

- Set your chat to “All panelists and attendees” and share your thoughts there

- Ask any questions using the Q&A button

- Have fun and make some coding friends!

WELCOME

WOMEN WHO CODE

Our Mission

Inspiring women to excel in technology careers.

WOMEN WHO CODE PYTHON

Our Vision

A world where diverse women are better represented as engineers and tech leaders

WOMEN WHO CODE PYTHON

Our Values

+ Focus on the mission
+ Live Leadership
+ Punch above your weight
+ Inclusion at the core

WOMEN WHO CODE PYTHON

Our Target

Engineers with two or more years of experience looking for support and resources to strengthen their influence and levelup in their careers.

WOMEN WHO CODE PYTHON

290,000

Members

70 networks in 20 countries
122+ countries
14K+ events
$1025 daily Conference tickets
$2M Scholarships
Access to jobs + resources
Infinite connections

WOMEN WHO CODE PYTHON

OUR MOVEMENT

As the world changes, we can be a connecting force that creates a sense of belonging while the world is being asked to isolate.

WOMEN WHO CODE PYTHON

Code of Conduct

WWCode is an inclusive community, dedicated to providing an empowering experience for everyone who participates in or supports our community, regardless of gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, ethnicity, age, religion, socioeconomic status, caste, creed, political affiliation, or preferred programming language(s).

Our events are intended to inspire women to excel in technology careers, and anyone who is there for this purpose is welcome. We do not tolerate harassment of members in any form. Our Code of Conduct applies to all WWCode events and online communities.

Read the full version and access our incident report form at
womenwhocode.com/codeofconduct

WOMEN WHO CODE PYTHON

WOMEN WHO CODE®

/connect

CONNECT Forward 2021

Join the largest and most active community of technical women for two days of career advancement, connection, and more!

REGISTER

November 18 & November 19, 2021

Register here:

Get 50% off your Member ticket!

Promo Code: **WWCODEPYTHON**

LeetCode Study Group

WOMEN WHO CODE PYTHON

Meet Your Team!

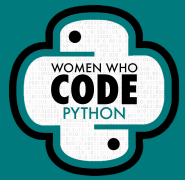
Chethana
Lead / Associate Software Engineer

Karen
Lead / Programmer

WOMEN WHO CODE PYTHON

Today's Agenda

1. Introduction to sliding window
2. Deep dive of longest substring without repeating characters
    a. Problem Discussion
    b. Test cases
    c. Approaches with time complexity
    d. Live coding
3. Next problems to tackle
4. Q&A



But first, what is the sliding window?

What is it?

- Imagine you have a window with two glass panes - one that moves and one that is fixed
- You are attempting to close it like so

What is it? contd...

Let's summarise

- Two parts => fixed and moving
- There is a stopping condition where we need to reassess what to do with both the parts
- Anything else?

Based on the above image, can we come up with some sort of way to explain the pattern? Let's gooo!

Slightly informal definition/template

- some kind of linear input
- a window composed by two pointers
  - one that is generally fixed but moves after window size is reached
  - second one that moves to expand the window
- some kind of condition to restrict/move the window with the two pointers along the input

When and why?

- continuous stream of input
- mostly used with substrings and subsequences
- avoids a lot of unnecessary processing within the array
- also reduces to linear time from quadratic time

Problem

Example - Longest Substring Without Repeating Characters

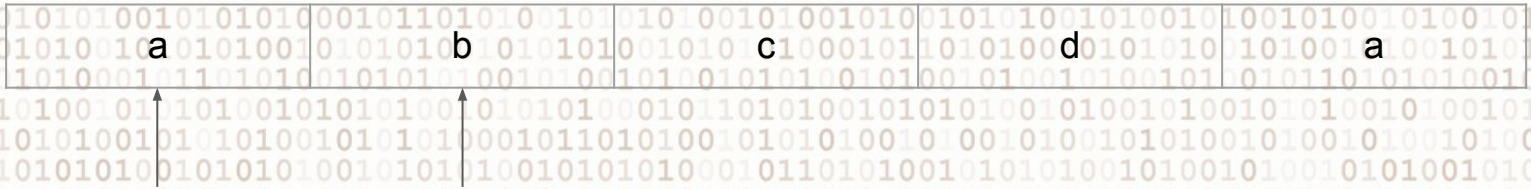
"Given a string s, find the length of the longest substring without repeating characters"

Examples:

1. *abcda*
   length = 4, longest substring = abcd, bcda
2. *aabcdefaadcgg*

Brute force

- Compute all substrings within string
- Loop through each substring and check if it is unique
- If so, find the length - check with prev length
- If the current length is greater, make it maxLength
- Repeat till end of string



Sliding window approach? Let's Code!

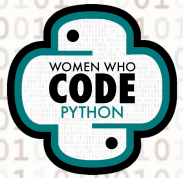
https://replit.com/@codernewbie/WWCodePythonLeetcode

Next steps from here

Longest Nice Substring

"A string s is nice if, for every letter of the alphabet that s contains, it appears both in uppercase and lowercase. For example, "abABB" is nice because 'A' and 'a' appear, and 'B' and 'b' appear. However, "abA" is not because 'b' appears, but 'B' does not.

Given a string s, return the longest substring of s that is nice. If there are multiple, return the substring of the earliest occurrence. If there are none, return an empty string"



QnA Time!

Useful Links

- Leetcode Study group repo
- Repl link
- Mock interview - Pramp
- Leetcode Weekly contest (and biweekly)

Stay Connected!

WOMEN WHO CODE PYTHON

JOIN US ON SOCIAL MEDIA!

@WWCODEPYTHON

WOMENWHOCODE.COM/PYTHON

Upcoming Events

- Oct 21 - Binary Search
- Nov 4 - Greedy
- Nov 18 - Hashtable
- Dec 2 - DFS (and BFS discussion)
- Dec 16 - Backtracking
- ...more to come!

Upcoming Events

SAT 09 OCT	Python Libraries 101 *Featured, Recurring* Online | Python | 9:00 AM – 10:00 AM CDT (UTC-0500)	Register
SAT 16 OCT	Python Libraries 101 *Featured, Recurring* Online | Python | 9:00 AM – 10:00 AM CDT (UTC-0500)	Register
THU 21 OCT	✨ LeetCode Series Study Group ✨ *Featured, Recurring* Online | Python | 7:00 PM – 8:30 PM CDT (UTC-0500)	Register
SAT 23 OCT	Python Libraries 101 *Featured, Recurring* Online | Python | 9:00 AM – 10:00 AM CDT (UTC-0500)	Register

Register at: https://www.womenwhocode.com/python/events

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Thank You for Joining!