x01. Lockboxes

gorithmy Pl**ayting(**/planning/me)

Weight: 1

Projects(/projects/current)

Project over - took place from Jul 1, 2024 6:00 AM to Jul 5, 2024 6:00 AM

An auto **CPA** i Previebres al upalme that the flow or lieue tions / to review)

? Evaluation quizzes(/dashboards/my current evaluation quizzes) In a nutshell...

Auto QA review: 13.0/13 mandatory

Altogether: 100.0%

Curriculums(/dashbeards/my_curriculums)

Optional: no optional tasks

Concepts(/concepts)

Conference rooms(/dashboards/video_rooms)

Must Know

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Concepts Needed:

1. Lists and List Manipulation:

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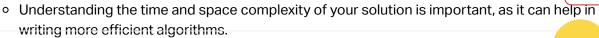
- o Understanding how to work with lists, including accessing elements, iterating over lists, and Videron ordifdeingalinat (sotta, atrabro ian ad la st. videos)
 - Python Lists (Python Official Documentation) (/rltoken/TtGNy9p1p1d0O5G1rdY1Aw)
- 2. Graph Theory Basics:

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o Although not explicitly required, knowledge of graph theory (especially concepts related to Peers (Versal/Brook) thms like Depth-First Search or Breadth-First Search) can be very helpful in solving this problem, as the boxes and keys can be thought of as nodes and edges in a

Discord(https://discord.com/app) Graph Theory (Khan Academy) (/rltoken/eVcYl8g-6nF0Na46xnRdhw)

3. Algorithmic Complexity:



Big O Notation (GeeksforGeeks) (/rltoken/01qym1qAJUkLrb47PvqnKg)

4. Recursion: 4. Recursion:







- Some solutions might require a recursive approach to traverse through the boxes and keys.
- Recursion in Python (Real Python) (/rltoken/zpEuvv0l9EHohlx-HwiAAA)

(5) Queue and Stack:



• Knowing how to use queues and stacks is crucial if implementing a breadth-first search (BFS) or depth-first search (DFS) algorithm to traverse through the keys and boxes.

Python Queue and Stack (GeeksforGeeks) (/rltoken/CQLm4RJrdwyo2DAcNCtwlA)

6. Set Operations:



My Planning (me) use sets for keeping track of visited boxes and available keys can optimize the search process.



 Python Sets (Python Official Documentation) (/rltoken/zkmtaPqAbKyxx41kRw7ulA) Projects/current)

By reviewing these concepts and utilizing these resources, you will be well-equipped to develop an efficient solution for this project, applying both your algorithmic thinking and Python programming skills.

QA Reviews I can make(/corrections/to review)

Additional Resources

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Evaluation quizzes(/dashboards/my_current_evaluation_quizzes)
 Mock Technical Interview (/ritoken/TyoFyhWeEGollqMpwBn/Pg)

Requirements



Curriculums(/dashboards/my_curriculums)

General



- Allowed editors: viptsyim, emacs
- All your files will be interpreted/compiled on Ubuntu 20.04 LTS using python3 (version 3.4.3)
- · All your files should end with a new line



- The offerme of a hyall data beard to be exacted many for the contract of the
- A README.md file, at the root of the folder of the project, is mandatory



- Your code, should be documented
- Your code should use the PEP 8 style (version 1.7.x)
- All your files must be executable

Sandboxes(/user_containers/current)

Tools(/dashboards/my_tools)



Video on demand(/dashboards/videos)

mandatory

Score: 100.0% (Checks completed: 100.0%)



Peers(/users/peers)

You have n number of locked boxes in front of you. Each box is numbered sequentially from 0 to n \cdot and each box may contain keys to the other boxes.



Discord(https://discord.com/app)

Write a method that determines if all the boxes can be opened.

Prototype: def canUnlockAll(boxes)



- A key with the same number as a box opens that box
- Young an armen/meeth/key sound files positive integers
 - There can be keys that do not have boxes

