

COMP1511 PROGRAMMING FUNDAMENTALS

LECTURE 17

Exam-Style Questions
Ask me Anything

LAST WEEK...

- Exam Information
- A few exam style questions

TODAY...

- Guest Lecture - the lovely Tom from Optiver (one of my former admins extraordinaire!)
- More exam style questions

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WHERE IS THE CODE?



Live lecture code can be found here:

[HTTPS://CGI.CSE.UNSW.EDU.AU/~CS1511/26T1/CODE/WEEK_10/](https://cgi.cse.unsw.edu.au/~cs1511/26T1/code/week_10/)

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COURSE FEEDBACK



 Experience

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my Experience surveys
<http://myexperience.unsw.edu.au/>

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GUEST LECTURE

Tom Kunc

EXAMPLE PROBLEM



Problem 1: Find the range (the difference between the biggest term and the smallest term) of a linked list

EXAMPLE PROBLEM



Problem 2: Concatenate two linked lists (join one linked list to another)

EXAMPLE PROBLEM



Problem 3: Given two linked lists, return the difference in the number of items in the two lists.

EXAMPLE PROBLEM



Problem 4: Count all the elements in the linked list that are divisible by a given number and output the count.

EXAMPLE PROBLEM



Problem 5: Given two linked lists, count the number of even numbers in both linked lists and return the difference.

EXAMPLE PROBLEM



Problem 6: Find the smallest element in the linked list and return its position in the list.

EXAMPLE PROBLEM



Problem 7: Delete the first node in the list that is divisible by 6

EXAMPLE PROBLEM



Problem 8: Duplicate every node in the list by inserting the same node after the original node.

EXAMPLE PROBLEM



Problem 9: Insert a sum node at the head of the list that contains the total sum of all previous nodes' data.

EXAMPLE PROBLEM



Problem 10: One that we make up ourselves :)

One idea: After every two nodes, insert a new node whose value is the sum of the previous two nodes.

EXAMPLE PROBLEM



Problem 11: In this task, you are given an array of integers with exactly `size` elements, and a target number.

Your function `closest_to_target` should return the sum of any two numbers in the array that is closest to the target number.

EXAMPLE PROBLEM



Problem 12: Read integers into an array from terminal until a number is entered, which when multiplied by at least one other number previously entered results in 56.

EXAMPLE PROBLEM



Problem 13: The function `sum_cont_subarray` should return the largest contiguous sum of a subarray in a given array

EXAMPLE PROBLEM



Problem 14: An isogram is a word in which no letter of the alphabet occurs more than once. Write a C program that reads in words until Ctrl+D and checks whether the word is an isogram.

EXAMPLE PROBLEM



Problem 15: Write a C program that reads in words until Ctrl+D, and checks whether a word read in as a command line argument appears in the main word. If it appears, print it again.

WHAT DID WE LEARN TODAY?

REVISION

Linked Lists

problem1.c problem7.c
problem2.c problem8.c
problem3.c problem9.c
problem4.c problem10.c
problem5.c
problem6.c

REVISION

Arrays

problem11.c
problem12.c
problem13.c

REVISION

3 dot Strings

problem14.c
problem15.c

REACH OUT



CONTENT RELATED QUESTIONS

Check out the forum



ADMIN QUESTIONS

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