

COMP1511 PROGRAMMING FUNDAMENTALS

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LECTURE 16

Starting Revision

LAST WEEK...

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- Multi-files
- More linked lists

FOR OUR FINAL WEEK...

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- REVISION!

“

WHERE IS THE CODE?

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Live lecture code can be found here:

[HTTPS://CGI.CSE.UNSW.EDU.AU/~CS1511/23T1/LIVE/WEEK10/](https://cgi.cse.unsw.edu.au/~cs1511/23T1/LIVE/WEEK10/)

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COURSE FEEDBACK



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

REVISION CLASSES

PLEASE BOOK NOW!



Come along and work on revision problems with the support of our lovely tutors:

- FACE TO FACE in Sitar/Kora labs J17:
 - Monday 2-4pm (Sitar) - Anivridh and Gab

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• ONLINE: Wednesday 10-12pm - Salina and Liz

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Register:

<https://www.eventbrite.com.au/e/560086883947>

REVISION CLASSES

EXAM ENVIRONMENT

Let me show you the exam environment quickly and the different commands - good for those of you online that are not able to come in before sitting the actual exam :)

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LINKED LISTS

REVISION

- Can only access things sequentially by traversing the whole list
- Can add nodes in as needed (dynamic memory allocation) - by using `malloc(sizeof(struct node))`
- Can delete nodes as needed (by using `free()`)

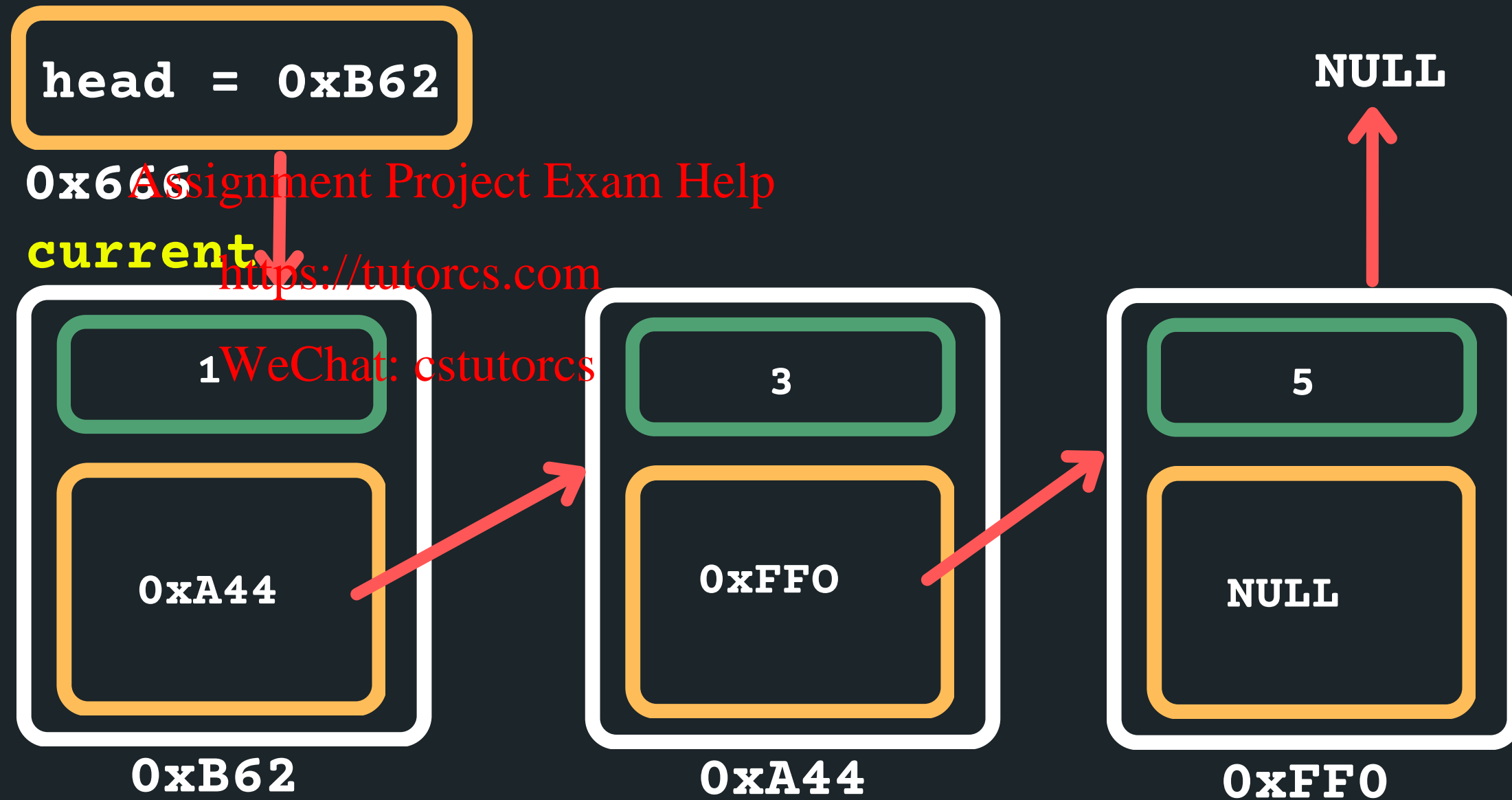
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• Can check for memory leaks (has everything been freed?) by using: `gcc --leakcheck`

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RECALL A LINKED LIST STRUCTURE

head is just a pointer (not a node!) that holds the address of the first node

End of the list reached when you hit NULL



LINKED LISTS

REVISION

- Some special boundary conditions that you need to consider when you manipulate lists:
 - Empty list
 - List with 1 element
 - Something happening at the beginning of the list
 - Something happening at the end of the list
 - Something will not occur, the item is not in the list (inserting after a number that doesn't exist etc)

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THE EXAM

EXAMPLE QUESTION 2



Perform some computation on a linked list

Given a linked list, print the largest value in that list

Edit the function

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```
int largest (struct node *head)
```

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EXAMPLE PROBLEM



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

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(see the working files for the details spec)

EXAMPLE PROBLEM



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

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EXAMPLE PROBLEM



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

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EXAMPLE PROBLEM



Problem 4: Count all the elements in the linked list that are divisible by 6 and output the count.

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EXAMPLE PROBLEM



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

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FAKE KAHOOT



Go to www.menti.com/alqa9z6bmnor

Mentimeter

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Week 10: The final HUZDAH



BREAK TIME...

Did you enjoy your first taste of programming?

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EXAMPLE PROBLEM



Problem 6: Insert a specified number into the middle of a linked list. Assume that there is always going to be an even number of numbers in the list before insertion.

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EXAMPLE PROBLEM



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

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EXAMPLE PROBLEM



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

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EXAMPLE PROBLEM



Problem 9: One that we make up ourselves :)

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WHAT DID WE LEARN TODAY?

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REVISION WeChat: cstutorcs REVISION

Linked Lists

problem7.c

problem8.c

problem9.c

problem1.c

problem2.c

problem3.c

problem4.c

problem5.c

problem6.c

REACH OUT



CONTENT RELATED QUESTIONS

Check out the forum

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ADMIN QUESTIONS

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