COMP1511 PROGRAMMING FUNDAMENTALS

LECTURE 16

Starting Revision

LAST WEEK...

- Linked lists
- Exam Information

FOR OUR FINAL WEEK...

- REVISION!

WHERE IS THE CODE?

Live lecture code can be found here:

HTTPS://CGI.CSE.UNSW.EDU.AU/~CS1511/24T1/LIVE/WEEK10/

COURSE FEEDBACK

my Experience surveys

http://myexperience.unsw.edu.au/

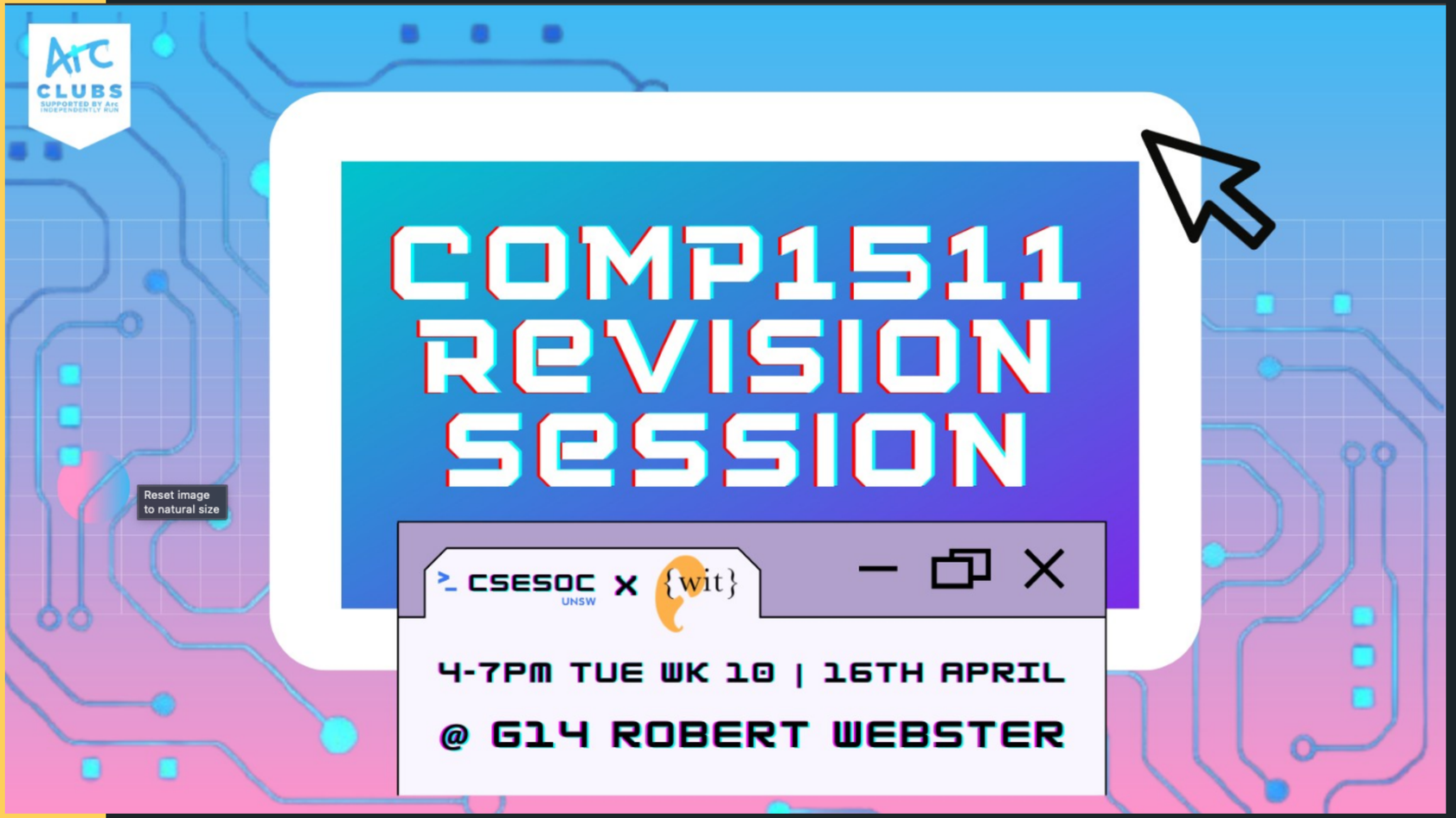
REVISION CLASSES

PLEASE BOOK NOW!

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

- FACE TO FACE in Morven Brown G3:
  - Tuesday 11-14 - Anivridh and Valerie
- ONLINE via Teams:
  - Monday 14-16 - Anivridh

CSESOC REVISION SESSION



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 :)

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)

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 DEBUG

The following code is meant to join two strings together and form one string. So for example, if the user inputs ”Pass” and ”Word”, the returned printed output should be ”PassWord” as one string.

```
Enter the first string: Pass
Enter the second string: Word
PassWord
```

There are currently a number of issues in the code that you must fix for the code to work correctly, and produce the desired output. This may include changing lines, adding lines, or removing lines. Submit your working version of the code.

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 6 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.

BREAK TIME...

Did you enjoy your first taste of programming?

EXAMPLE PROBLEM

Problem 6: Insert a new node into a sorted linked list, maintaining the sorted order.

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: Delete duplicates from a linked list.

EXAMPLE PROBLEM

Problem 10: Write a C program that reads integers from standard input until it reads a negative integer. It should then print the odd numbers on one line and then print the even numbers on the next line.

EXAMPLE PROBLEM

You may assume that the program's input will contain only integers, in other words, you can assume scanf succeeeds.
You can assume a negative integer will always be read.
You can assume a maximum of 1000 integers are read before a negative integer is read.

EXAMPLE PROBLEM

```
$ ./even_negative
1
2
3
2
-42
Odd numbers were: 1 3
Even numbers were: 2 2
```

EXAMPLE PROBLEM

Problem 11: Write a C program that finds the sum of the minimum numbers in each row in a 2D array.

EXAMPLE PROBLEM

Problem 12: Write a C program that reads 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 12.5: Write a C program to find the largest sum of contiguous subarray in an array.

EXAMPLE PROBLEM

Problem 13: 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 14: Write a C program that reads in words from the command line 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.

EXAMPLE PROBLEM

For example:

$./prob13 courage age bloom

encourage

encourage

boom

blooming

blooming

Thank you all so much for tuning in, for coming in person, for learning, for engaging, for providing some pearls on the forum and I hope that you had an enjoyable intro to programming. Don't forget that Rome wasn't built in a day, and becoming a better programmer entails lots of practice!

I really appreciate the engagement that you have shown throughout the lectures, and I wish you all well in the final exam.

Have a wonderful *short* break, I hope you all get some proper down time.

Good Luck in the exam and for your future courses, and I may see some of you again in your later courses :)

WHAT DID WE LEARN TODAY?

REVISION

Linked Lists

problem1.c
problem2.c
problem3.c
problem4.c
problem5.c
problem6.c

REVISION

problem7.c
problem8.c
problem9.c

REACH OUT

CONTENT RELATED QUESTIONS

Check out the forum

ADMIN QUESTIONS

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