

COMP1511 PROGRAMMING FUNDAMENTALS

# LECTURE 15

Exam Information

Starting Revision

# LAST TIME...

- What is a Linked List?
- Linked List traversing
- Linked Lists inserting
- Linked Lists deleting

# TODAY...

- Exam info!
  - Format
  - Preparation
  - Hints and tip

“

WHERE IS THE CODE?



**Live lecture code can be found here:**

[HTTPS://CGI.CSE.UNSW.EDU.AU/~CS1511/24T1/LIVE/WEEK09](https://cgi.cse.unsw.edu.au/~cs1511/24T1/LIVE/WEEK09)

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## COURSE FEEDBACK



Tell us about your experience and shape the future of education at UNSW.

Click the link in Moodle

Please be mindful of the [UNSW Student Code of Conduct](#) as you provide feedback. At UNSW we aim to provide a respectful community and ask you to be careful to avoid any language that is sexist, racist or likely to be hurtful. You should feel confident that you can provide both positive and negative feedback but please be considerate in how you communicate.



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

# THE EXAM

## WHAT IS IN IT?

- Everything that we have learnt so far
  - Lots of focus on:
    - Simple IF statements and WHILE loops
    - Variables: int, double, char, structs
    - Strings
    - Arrays
    - Pointers
    - Linked Lists

# THE EXAM

## TIME/DATE

- Date: 30th April/1st May (choice of three sessions with two sessions running on 30th and morning session on the 1st only)
- There will be THREE sessions of the exam. The students sitting the exam in the afternoon will be corralled for a period of twenty-thirty minutes as we conduct the changeover. The exam will be in different CSE lab locations, and you will be given a seating arrangement closer to the date of the exam, so you know where you need to be and at what time. The sessions are:
  - Morning: 10:15-13:30
  - Corraling: 13:20-13:55 (although arrive at 13:20, corraling doors can close at 13:30)
  - Afternoon: 13:55-17:10

# THE EXAM

- The lab NEXT week will provide you with a test environment that will be similar to your exam - this will allow you to familiarise yourself with the setup
  - Give is the same as in your labs/weekly tests
  - Autotests are run the same way etc
  - Submit as many times as you want - only last submission will be marked



# THE EXAM

# EXAM HURDLES

- There's an array hurdle, question 2 or 4
  - You must earn a mark of 50% or more in at least one array hurdle question
- There's a linked list hurdle, question 1 or 3
  - You must also earn a mark of 50% or more in at least one linked list hurdle question

THESE QUESTIONS WILL BE CLEARLY MARKED ON THE EXAM AS HURDLES

# THE EXAM

## EXAM CONDITIONS

- Close book, however:
  - Our course website will be open, which means you will have access and are allowed to refer to:
    - Any lecture material or code
    - Any tutorial material or code
    - Any laboratory material or code
- Exam conditions still apply!!!
  - Do not communicate with anyone about the exam within 24 hours of the exam start time - this is considered plagiarism
  - No discussion of the exam or sharing your code with anyone except for COMP1511 staff

# THE EXAM

- If you experience any issues during the exam, please raise your hand and wait for an invigilator.

# THE EXAM

- When you come into the room and seat yourself, there will be instructions provided to you on how to start the exam
  - We personalise the papers, so your paper may be different from that of someone else.
  - The different sessions also have different exam papers
  - The command needed to fetch your exam. You will use a similar command in your practice exam to get you used to the process:

File Edit View Terminal Tabs Help

```
avas605@vx6:~$ 1511 fetch-exam
```

# THE EXAM

## FIT TO SIT



Fit to Sit Policy:

<https://www.student.unsw.edu.au/exam-rules>

By sitting the exam on the scheduled assessment date, you are declaring that you are fit to do so and cannot later apply for Special Consideration.

# THE EXAM

## FIT TO SIT



If, during an online exam you feel unwell to the point that you cannot continue with the exam, you should take the following steps:

- Stop working on the exam and take note of the time
- Please raise your hand and let the invigilator know you are unwell.
- Immediately submit a Special Consideration application saying that you felt ill during the exam and were unable to continue
- You must provide a medical certificate dated within 24 hours of the exam, along with any record of the conversation you have had with us (basically that you have let us know you feel unwell before leaving)

# THE EXAM

# SUPP EXAM

- If you are granted special consideration based on the Fit to Sit university policy, a supplementary exam will be held in May of 2023 (sometime in the week 20-24th May). If you think you will need to sit this exam, make sure you are available.
- Fit to Sit Policy:  
<https://www.student.unsw.edu.au/exam-rules>

# THE EXAM

## WEEK 11 REVISION CLASSES

In Week 11, we will be running some revision classes.

Registration and details will be announced soon...



# THE EXAM

# FORMAT

The format of the exam will be:

- 11 Practical Answer Questions with the following distribution of marks:
  - Q1 - Q4 (12 marks each) HURDLES Programming questions
  - Q5 - Q8 (5 marks each) They require you to understand what pieces of code are doing, interpreting code, interpreting diagrams, etc.
  - Q9 - Q10 (11 marks each) Programming questions
  - Q11 (10 marks each) Programming questions
  - Similar in style to the questions you did in your problem sets, revision exercises
  - These are also rated to give you an idea of how difficult each question is.
- We hope that everyone can attempt and complete the first eight questions

# THE EXAM

## Q5-Q8

Practical Application Answer Questions

Number of questions: 4

Marks: 5 mark each (total of 20 marks)

- These questions will be about whether you understand core coding concepts and the C programming language
- In the style: "Debug the following code to make sure it works to produce the desired output."
- Some examples are in the Week 10 Prac Exam

# THE EXAM

# PRACTICAL QUESTIONS

Practical Questions

Number of questions: 7

Marks: varied

Q1 - Q4 (12 marks each)

Q9 - Q10 (11 marks each)

Q11 (10 marks) (total of 70 marks)

- Questions are similar to the Revision Exercises and Problem Sets
- Stages of difficulty from basic to very hard (will be marked in the same rating system as your problem sets)
- Some will have provided code as frameworks
- Each question will need to be written, compiled and tested
- You will have access to autotests (but they're just tests!)

# THE EXAM

# PRACTICAL QUESTIONS

Practical Questions

Number of questions: 7

Marks: varied

Q5 - Q8 (12 marks each)

Q9 - Q10 (11 marks each)

Q11 (10 marks) (total of 70 marks)

- Harder questions will have less autotests
- There will be no specific style marking, so you don't need to explain your code in comments but it needs to be readable so I can mark it!

# THE EXAM

# PRACTICAL QUESTIONS

- When you fetch your exam in the beginning, it will also copy over any starter files you may need for the practical questions.
- Read all the questions before starting
- Start with the easier questions
- Prepare! A couple of minutes thinking and drawing a diagram will clarify how you're going to approach a question
- Use your problem set/revision practice! Debugging and testing will be important here
- Less questions answered completely is better than more questions partially answered

# THE EXAM

## PRACTICAL QUESTIONS

### QUESTION 1 AND QUESTION 2

These are: ● ○ ○

- Similar to Practical test question 1 or 2
- Question 1 is a linked list hurdle
- Question 2 is an array hurdle
- Tests your ability to:
  - Create simple C programs
  - Use variables (int, double, char)
  - Use scanf and printf
  - Use IF statements and WHILE loops
  - Use of simple structs
  - Use of arrays of int/double/struct in Q2
  - Use of linked list of ints/doubles (no insertion or removal of nodes) in Q1

# THE EXAM

## EXAMPLE

### QUESTION 1



Perform some computation on a linked list

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

Edit the function

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

# THE EXAM

## EXAMPLE QUESTION 2



- Loop through an array of structs and gather some kind of information

Given an array of structs, where each struct is:

```
struct direction {  
    int number;  
    char dir;  
};
```

Print out the total of the number of steps taken in a specific direction. So for example, if direction is 'l', find all the structs with direction as 'l' and add the numbers in those structs up. Edit the function

```
int total (int size, struct direction array[MAX])
```



# THE EXAM

## EXAMPLE QUESTION 2



- Loop through an array and gather some kind of information

Given an array:

Count the number of multiples of 3 in the array.

```
int array_count_multiple (int size, struct  
direction array[MAX])
```

# THE EXAM

## PRACTICAL QUESTION 3 AND QUESTION 4



These are: 

- Similar to Practical test question 3 and 4
- Question 3 is a linked list hurdle
- Question 4 is an array hurdle

If you have answered Q1 and Q2, this means that you have already passed the hurdles of the exam

- These are harder applications of the hurdles
- You will need to know everything from Q1 and Q2, in addition to:
  - Looping through more than once (maybe)
  - Some insertion/removal of nodes in Q3
  - Testing more difficult conditions and keeping track of more than one thing.

# THE EXAM

## PRACTICAL QUESTION 9 AND QUESTION 10



These are: 

- Harder manipulation of arrays (Q9)
  - Possibly fgets or string manipulation
- Manipulate linked lists (adding and removing items etc) (q10)
  - Potentially use malloc() and free() with structs and pointers
- Again, more complex combinations, and some questions requiring interesting problem solving

# THE EXAM

## PRACTICAL QUESTION 11

### COMBINATION OF:



This one:  and 

- For those aiming for a HD mark
- Everything taught in the course might be in these questions
- Think "Exercises", even some of the hard ones!
- Will also test your ability to break a problem down into its parts
- The Prac Exam has an example of past Question 11 so you can see the difficulty level
- Partial completion of this question will award some marks

# THE EXAM

## WHAT SHOULD I STUDY?

The basics are important!

- Know how to use both arrays and linked lists
- Go back and do the problem sets if you haven't already
- The revision exercises on the course webpage are also very useful
- Variables, Structs, enums, IF, Looping, Functions, Arrays, Linked Lists are very important to understand!
- You will need to have some understanding of Strings, Pointers, and Memory Allocation to be able to work successfully with char arrays, and linked lists

# THE EXAM

# MARKING

- Most of the marking will be automated
- Make sure your input/output format matches the specification
- Answers for hurdles will also be checked by hand
- Marks will be earned for correct code, not for passing autotests
- Minor errors, like a typo in an otherwise correct solution, will only result in a small loss of marks

# THE EXAM

**YOU'VE GOT  
THIS**



- Whilst some parts of the exam (the later questions) have been designed to be very challenging, you do not need to complete them to be successful in getting a great mark in this subject
- Make sure you breathe!

# THE EXAM

**YOU'VE GOT  
THIS**



- When you are struggling to understand a question (particularly linked lists) = DRAW DIAGRAMS!
- Go over your problem sets and revision questions for extra practice.
- Revision classes will be run in Week 11 - details coming



# BREAK TIME...

How are you all doing?

Are you doing anything fun once the first term is over?

Are you excited to be in computing and to continue to build your knowledge further?

# WHAT DID WE LEARN TODAY?

EXAM

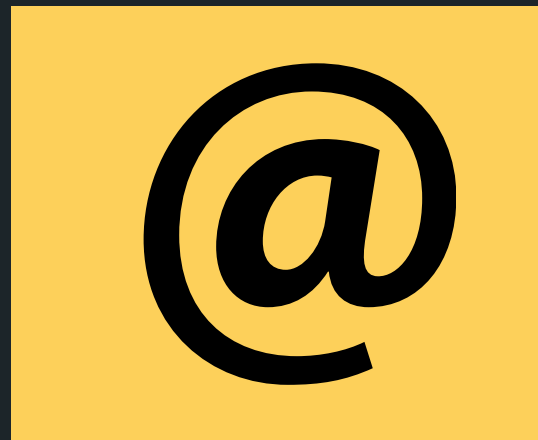
Details, details,  
details!

# REACH OUT



## CONTENT RELATED QUESTIONS

Check out the forum



## ADMIN QUESTIONS

[cs1511@unsw.edu.au](mailto:cs1511@unsw.edu.au)