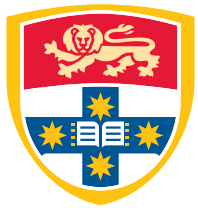
COMP2017 & COMP9017: Systems Programming

School of Computer Science, University of Sydney



Copyright Warning

Lecture 1: About this course

Lightest intro

This unit is *Systems Programming*

Note to self. Make own recording separately!

COMP2017 & COMP9017

Lecture 0 & slides available on Ed[1]

Lecture 0 & recording *already* available on Canvas[2]

- Structure of this course: `https://sydney.edu.au/units/COMP2017` [3]
- See staff pinned posts on Ed `https://edstem.org`
- More programming: YOU!

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[1] all students are expected to read these

[2] all students are expected to watch these

[3] See pass condition in Lecture 0. Late penalty → 5% per day. Absence → 0. Weekly in class task.

Assessment components

Assessment	**Due Date**	**Weighting**
In class tasks	Weekly (Tutorial)	20%
T0	Saturday 8 March	10%
P1	23:59 Wednesday 2 April	10%
P2	23:59 Wednesday 20 May	10%
Final Exam	Formal exam period	50%

Note: all due dates are Sydney local time[4]

Note: all assessments in English. This includes code comments, or any attached metadata/materials in a submission.

[4] daylight savings is used in Australia

Passing criteria

All assessments are *individual* work.

To pass this course,

- You must achieve the Examination Barrier, AND
- You must achieve at least $\geq$50% in total

Passing criteria (cont.)

ProgMark	Basic Final Exam Mark	Total	Result
44%	50%	45	**FAIL**
75%	35%	45	**FAIL**
10%	80%	45	**FAIL**
60%	80%	50	**PASS**
0%	100%	50	**PASS**
80%	85%	50	**PASS**
100%	100%	50	**PASS**

Table 1: Basic Exam (min 80/100) and Results.

Passing criteria (cont.)

ProgMark	Standard Final Exam Mark	Total	Result
44%	50%	45	**FAIL**
75%	35%	45	**FAIL**
10%	80%	45	**FAIL**
60%	40%	50	**PASS**
0%	100%	50	**PASS**
50%	50%	50	**PASS**
60%	75%	67.5	**CREDIT**
80%	85%	82.5	**DI**
90%	90%	90	**HD**

Table 2: Standard Exam (min 40/100) and Results

T0 - Test

Saturday 8 March. Codrington building. See your timetable

You will need to bring your identification. Student card, passport, or government issued Photo ID

Starting in late means finishing same time as other students

A roll will be taken. Please follow examiners directions

Format is Canvas. Windows PC. No reference material permitted

Contents are learning outcomes from INFO1110 and INFO1113

Duration 45 minutes

Non-programmable calculators permitted

Mobile phones, wearable electronics not permitted

In class tasks

Every week there is an in class task. Starting from week 2.

You will need to bring your identification. Student card, passport, or government issued Photo ID

Only a specific 8 of 12 in class tasks are graded. [5]

If you missed a graded in class task → apply for special consideration using the date of Friday of that week.

What will be covered? → anything introduced in the course thus far

What is the format? → It will be known at the beginning of the tutorial

[5] It's a secret, but it will be revealed at the end of the week.

Announcements

Presented in the lectures, not necessarily on slides

Student: ”a person who is studying at a university or other place of higher education” is incompatible with the student statement ”I admit on my part that I do not listen to the lecture content”

There is a tutorial self attendance QR code. Each week it is different. Let tutors know if it is not working for you.

Tutors can ask students questions!

General assignment information

Assignment 1 to be released and will continue to be revised where appropriate

Git + Linux Ed lessons are required. Assessments assume this.

Submission instructions for assessments on Ed

Read what is provided to you before asking

Do you have another question? See lecture 0 slides, the week 0 recordings which explain a lot, as well as the unit of study website. if it is not explained in these, feel free to ask on Ed!

Memory

Memory of a computer: The addressing system

We have memory: How much do we have?

We want to retrieve a value: Where is it?

We want to store a new value: Where does it go?

We want to refer to an area of memory for someone else: How can we do that?

Memory of a computer: The addressing system (cont.)

Memory is all about addresses and values

Address is the location in memory of the value

Values are an *arbitrary* number of the bits

The first bit of a value is stored at the address

Memory of a computer: The addressing system (cont.)

Computers: 1) calculate and 2) copy memory

Computers are constantly copying values from one address to another address.[6]

copy `64` bits from address `0x0123` to address `0x0480`

All calculations rely on the memory being organised:

- The correct values were copied into the area of memory,
- using the correct addresses,
- at the right time!

[6] A simplification for modern von neumann architecture