



# CMPT 295

## About our Midterm 2

# Midterm 2

When: Friday, Nov. 12

9:30am – 10:20am

Where: C900 I

(same classroom as our lectures)

Duration: 45 minutes

(+ 5 minutes to organize ourselves)

# What to study?

**Everything** we covered up until (and including) our lecture on Friday, Nov. 5 is subject to examination

- All material from Lecture 1 until and including Lecture 25 (partial lecture notes + annotated lecture notes + your own lecture notes + recorded lectures)
- Labs 1 to 4, Assignments 1 to 7 (even though Assignment 7 is due after our Midterm 2)
- All demo code posted on our course web site
- All Readings + Practice Problems:
  - Chapters 2 and 3 + Practice Problems (see Midterm 1 Instructions for listing)
  - Chapter 3, Section 3.7, 3.8 (skip 3.8.5 and 3.9), 3.10 (skip 3.10.5 and 3.11),
    - Practice Problems **3.32 to 3.40, 3.46, 3.48**

**Emphasis on the material seen from Lectures 17 to 25**

# Format of Midterm 2

- First section: questions that require short answers
  - For example:
    - “Yes/no” **or**
    - “fill in the blank” **or**
    - a few words/numbers
    - etc...
- Second section: questions that require written answers
  - For example:
    - Calculating – **we always show every step of our work**
    - Writing/completing C or assembly code
    - Drawing
    - Hand tracing code
    - Writing an answer (in English)
    - etc...

# Appendix

- As part of Midterm 2's appendix, we will be given the following information:

Table of x86-64 Jumps


Instruction	Condition	Description
jmp	always	Unconditional jump
je / jz	ZF	Jump if equal / zero
jne / jnz	~ZF	Jump if not equal / not zero
js	SF	Jump if negative
jns	~SF	Jump if nonnegative
jo	OF	Jump if overflow
jno	~OF	Jump if not overflow
jg / jnle	~(SF ^ OF) & ~ZF	Jump if greater (signed >)
jge / jnl	~(SF ^ OF)	Jump if greater or equal (signed ≥)
jl / jnge	SF ^ OF	Jump if less (signed <)
jle / jng	(SF ^ OF)   ZF	Jump if less or equal (signed ≤)
ja / jnbe	~CF & ~ZF	Jump if greater (unsigned >)
jae / jnb	~CF	Jump if greater or equal (unsigned ≥)
jb / jnae / jc	CF	Jump if less (unsigned <)
jbe / jna / jnc	CF   ZF	Jump if less or equal (unsigned ≤)

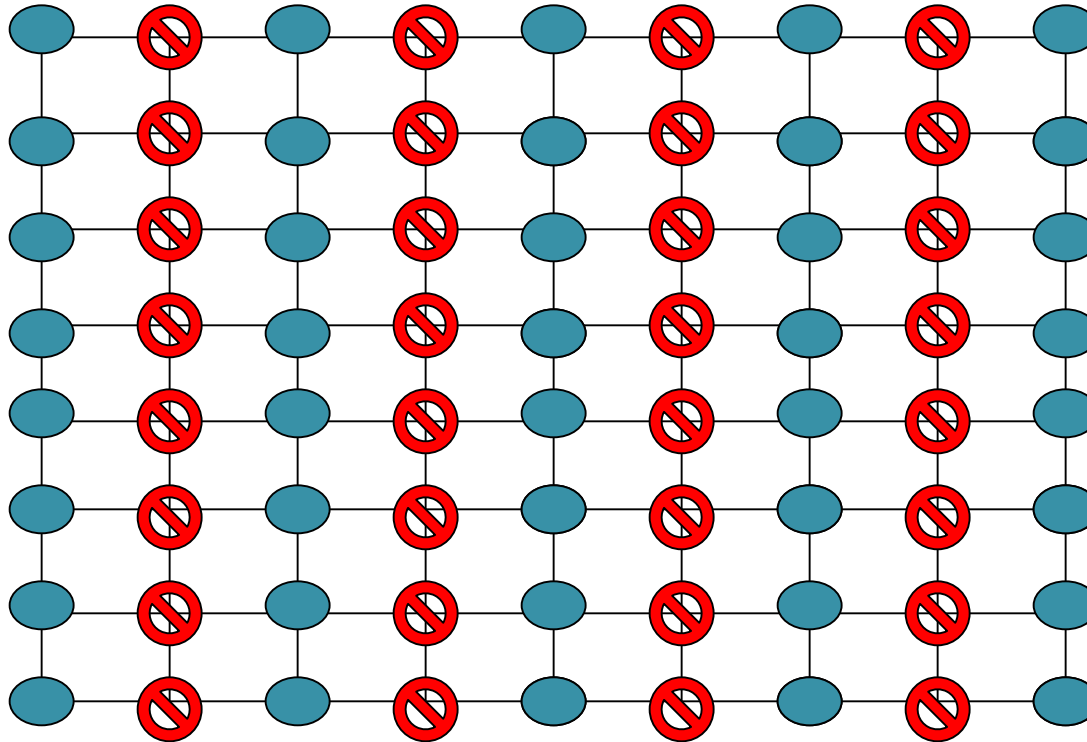
Table of x86-64 Registers

64-bit (quad)	32-bit (double)	16-bit (word)	8-bit (byte)		
63..0	31..0	15..0	15..8	7..0	
rax	eax	ax	ah	al	Return value
rbx	ebx	bx	bh	bl	Callee saved
rcx	ecx	cx	ch	cl	4th arg
rdx	edx	dx	dh	dl	3rd arg
rsi	esi	si		sil	2nd arg
rdi	edi	di		dil	1st arg
rbp	ebp	bp		bpl	Callee saved
rsp	esp	sp		spl	Stack pointer
r8	r8d	r8w		r8b	5th arg
r9	r9d	r9w		r9b	6th arg
r10	r10d	r10w		r10b	Caller saved
r11	r11d	r11w		r11b	Caller saved
r12	r12d	r12w		r12b	Callee saved
r13	r13d	r13w		r13b	Callee saved
r14	r14d	r14w		r14b	Callee saved
r15	r15d	r15w		r15b	Callee saved

- and the powers of 2 from  $2^{-10}$  to  $2^{16}$  in decimal <sup>5</sup>

# Exam Seating Arrangement

 Represents a student seated at a seat



 Represents a vacant seat

Front of classroom

EVERYTHING HERE (included **cell phones, computer and calculator**)!

Keep pens, pencils, eraser with you!

# Before the midterm

- Once you have received your midterm, leave the midterm face up on your table
- Read its instructions on its first page
- **Please, do not touch, leaf through, or write your name on the midterm**
  - **Why?** Because it is unfair to all other students who have not yet received a midterm
- When all students have received a midterm, you will be instructed to **start the midterm**

# During the midterm

- If you have a question
  1. Have a look at the instructions on Page I for an answer
  2. If the answer to your question is not on Page I, raise your hand and the instructor will attend to your question – the instructor is the only person answering questions (TAs will not be answering questions)



# At the end of midterm

- When you are told to

**Please, stop writing!**

please, do stop writing and hand in our  
midterm as instructed

- **Why?** If you continue writing, it is unfair to all  
other students who have stopped writing



# Questions?