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# COMP10001

# Foundations of Computing

## Semester 1, 2021

## Tutorial 1

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# Introduction

- Tutorials
  - Monday (22) 9:00 – 10:00
  - Monday (19) 11:00 – 12:00

- Subject Help
  - Grok Forum
  - Grok Live Tutoring

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# Zoom Mode

- Camera
  - Encouraged but not mandatory
- Questions?
  - Chat Area or Raise Hand
  - Grok Forum
  - Email me

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# Tutorial Structure

- Review
  - Selected lecture content from previous week
- Tutorial Sheet
  - Basis for our tutorials
  - Work in groups
  - Where to download – *Subject Map*
  - Solutions released by week's end
- Your Questions

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# About Me

- Subject Experience
  - Breadth (BCom)
  - Zero programming experience
  - To complement Commerce studies
  - Fun subject, left wanting more (COMP10002…)

- Education
  - Master of Computer Science (2021-2022)
  - Grad. Dip. in Computer Science (2020)
  - Bachelor of Commerce (2017-2019)


# About Me

- Work
  - Tutor – COMP10001 [Python, undergrad]
  - Tutor – COMP90041 [Java, postgrad]
- Work Aspirations
  - Research software engineer
  - Cross-disciplinary work
  - Develop software solutions to research problems
- Other
  - Running, Surfing, Snowboarding, The Office

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# What is COMP10001 about?

- Python programming
- Programming constructs
  - Data types & Variables
  - Sequencing & Conditionals
  - Functions & Abstraction
  - Iteration & Recursion
  - File Input/Output
- Problem solving

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# Advice

- Keep up with Grok Worksheets
  - Easy way to bank marks
- Participate in Tutorials + Grok Forum
  - Ask Questions
  - Develop understanding by explaining
  - Potential for bonus marks
- Befriend Python's interactive terminal
  - Playground
  - Consolidate knowledge

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# Advice

- Start projects early
  - Break down questions into smaller problems
  - Whiteboard
  - Prioritise getting *something* to work before optimising your solution
- Consistently revise
  - Review lecture content very week
  - Form study groups now!

# ICE BREAKER

- Go around the room:
  - Your name
  - Planned degree
  - Reason for taking this subject

- As a group, write down on a whiteboard or virtual sticky note:
  - All the interesting things you have in common
  - Something unique to each person

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# Group Discussion

- As a group, discuss:
  - What is a program? How do we write one? What does it mean to run it?
  - What is a programming language and why do we need one?

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# My thoughts

- What is a program?
  - Sequence of instructions
  - Can be translated into machine code for a computer to run
  - Performs a specific task
- How do we write one?
  - Integrated Development Environment (IDE)
  - Grok is web-based IDE
- What does it mean to run it?
  - To tell the computer to execute the commands written

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# My thoughts

- What is a programming language and why do we need one?
  - A formal language
  - Strict rules, e.g. indentation
  - Well defined & structured to avoid ambiguity in natural language
  - To communicate with a computer via commands
  - Solve tasks efficiently

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# Reminder

Grok Worksheet 0, 1, and 2 are due Monday 15/3 at 11:59pm