

Week 2 Tutorial

COMP10001 – Foundations of Computing

Semester 1, 2025

Clement Chau

- Welcome and subject overview
- Introduction to Computing
- Programming basics (Blockly)

Get to know myself

Clement Chau (he/him)

3rd Year BSc, majoring in Computing and Software Systems

Went through COMP10001 as a student (2023S1)

Went through COMP10001 again as a tutor (2025S1)

Avid Esports enthusiast. If I'm not working nor studying, I'm on my computer watching ongoing games or playing games with friends.

Head of Technical for MUE (Melbourne University Esports).

Played for the university's VALORANT team last year.



A large orange circle on the left side of the slide.

Get to know yourself

- Name
- Year, Semester, Course
- Choose one (or all) of:
 - Favorite Game
 - Favorite Show/Movie
 - Favorite Place you've visited outside of your city



Where can COMP10001 take me?



Software engineer

Building websites, apps



Data scientist/analyst

Amazon recommendations,
Google search engine



AI/ML Engineer

Chatbots such as
ChatGPT, DeepSeek



Game Development




Other types of engineering

Electrical Engineering,
Robotics



And so much more...



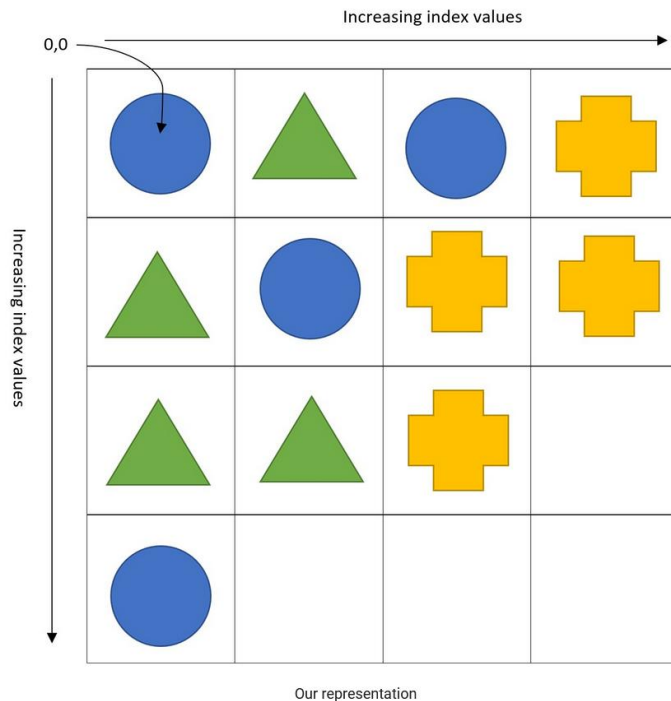
Programming is
a very
transferrable
skill to any field
and any career



2 years ago,

Project 1 – Matching game

```
board = [['B', 'G', 'B', 'Y'],  
        ['G', 'B', 'Y', 'Y'],  
        ['G', 'G', 'Y', 'Z'],  
        ['B', 'Z', 'Z', 'Z']]
```



Project 2 – FoCdle

The *difficulty* of a **FoCdle** is measured by its length in total characters.

For example, here is a trace of a person solving a **FoCdle** of difficulty 10. In their first guess they tried the 10-character equation "13+12-8=17" and learnt (from the green cells) what the first operator was and where it was located, and got the location of the "=" correct. They also learnt (from the yellow cells) that there were at least one each of the digits 1, 2, 3, and 7 (plus for each of those digits, they learnt one character position in which it did *not* appear); and they learnt (from the grey cells) that there was only a single instance of 1, that the second operator wasn't subtraction, and that there were no 8 digits anywhere.

0	1	2	3	4	5	6	7	8	9	
1	3	+	1	2	-	8	=	1	7	guess 1
7	2	+	3	1	%	6	=	7	3	guess 2
2	1	+	2	0	*	4	=	5	5	guess 3
2	5	+	4	*	1	2	=	7	3	guess 4, all green!

Example 1

From that information they formed their second guess "72+31%6=73" and submitted it. The response from that told them that the computed value had to be 73; that second operator wasn't "%" either; that there were no 6s, only one 7, and only one 3; plus also told them some more positions in which the digits 1 and 2 (which must occur somewhere) could not appear.

Last Semester,

Project 1 – Textoggle (Scrabble)



Project 2 – Minescaper (Minesweeper)



Input:

1	1	1	1	1
1	1	1	1	1
0	0	0	0	0
0	0	1	1	1
0	0	1	1	1

visited

current_pos

Output:

1	1	1	1	1
1	1	1	1	1
0	0	0	0	0
0	0	1	1	1
0	0	1	1	1

visited update

Academic Integrity

- Where **NOT** to get help
 - Online
 - Forums, External Tutor
 - You *can* post it on Ed, but make it **PRIVATE!**
 - ChatGPT, DeepSeek, etc
 - 'Friends'

In the past we have given penalties such as:

- Zero (0) for the assignment.
- Zero (0) for the subject.
- Termination of enrollment from the University.

IMPORTANT: If in doubt regarding what's allowed and what's not, **ASK THE TEACHING STAFF.**

Getting Help

- Tutorials (2nd hour)
- First Year Centre in Level 3 Melbourne Connect
 - Opens 9am to 5pm every day (**bring your student card!!!**)
 - COMP10001 tutors will be there at **12pm to 2pm**
- Ed Discussion forums
- Revisiting lectures and workshop materials in Canvas
 - Consolidation lectures every other Friday
- *PASS (Peer Assisted Study Sessions)*

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Bingo time!

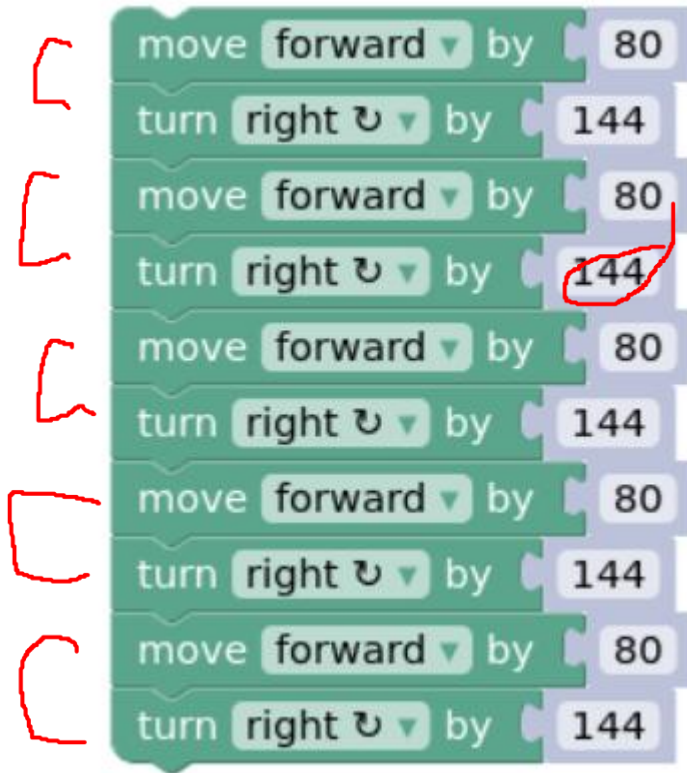


Find 3 things that your table has in common

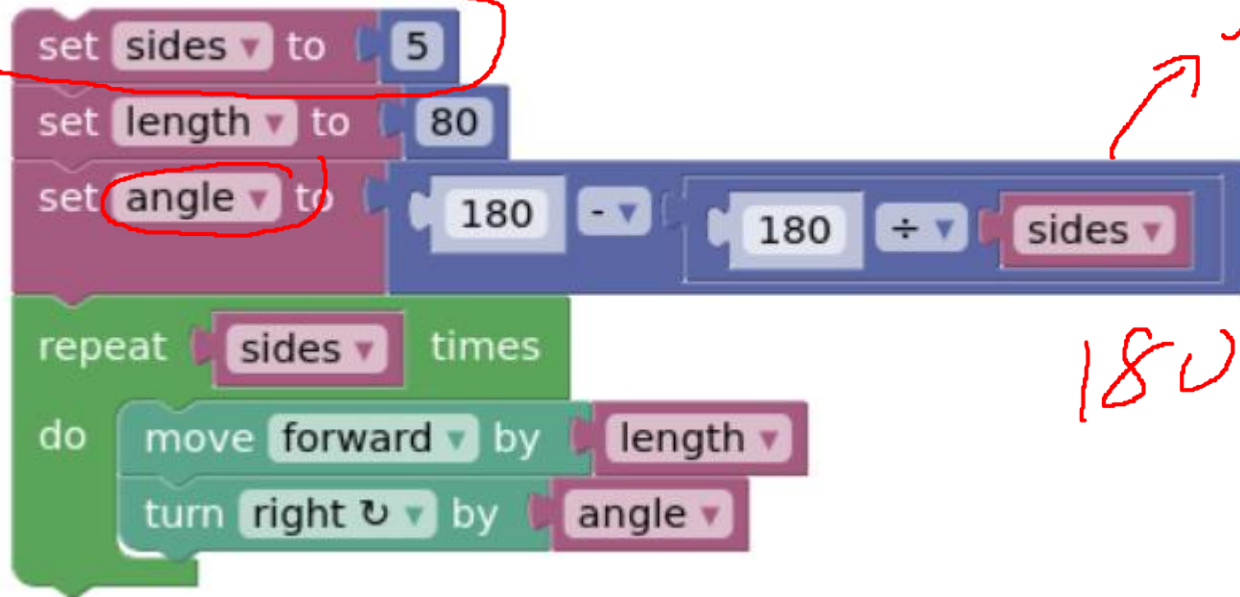


Blocky Turtle!

<https://blockly.games/turtle?lang=en&level=10>



Can we do this more effectively?

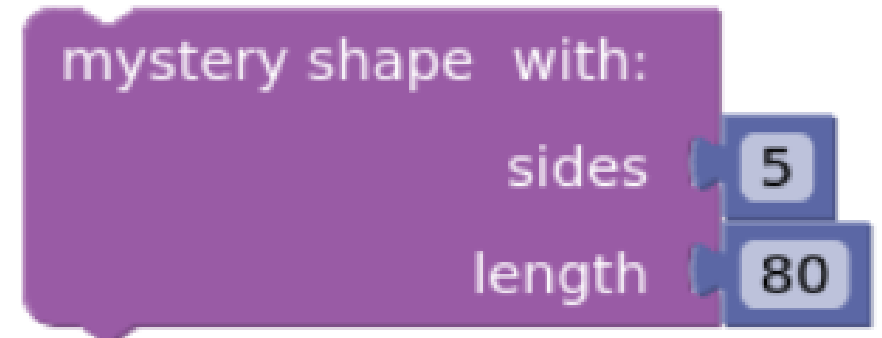
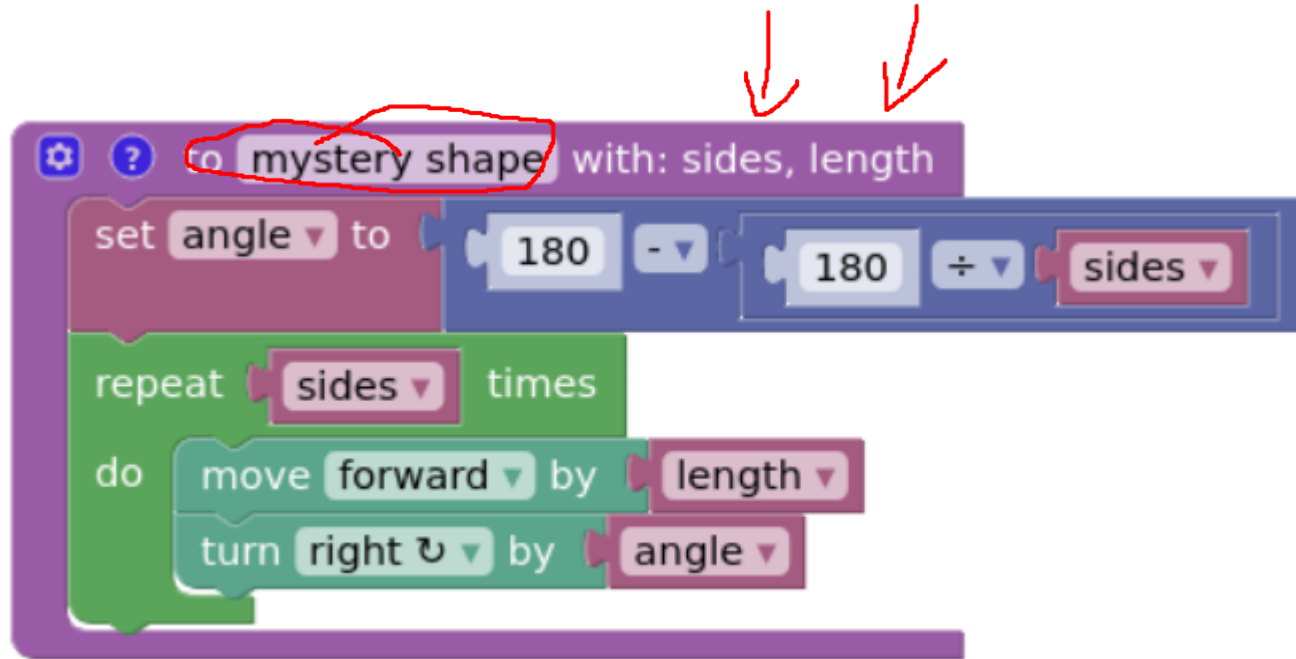


1 loop

5
180 -

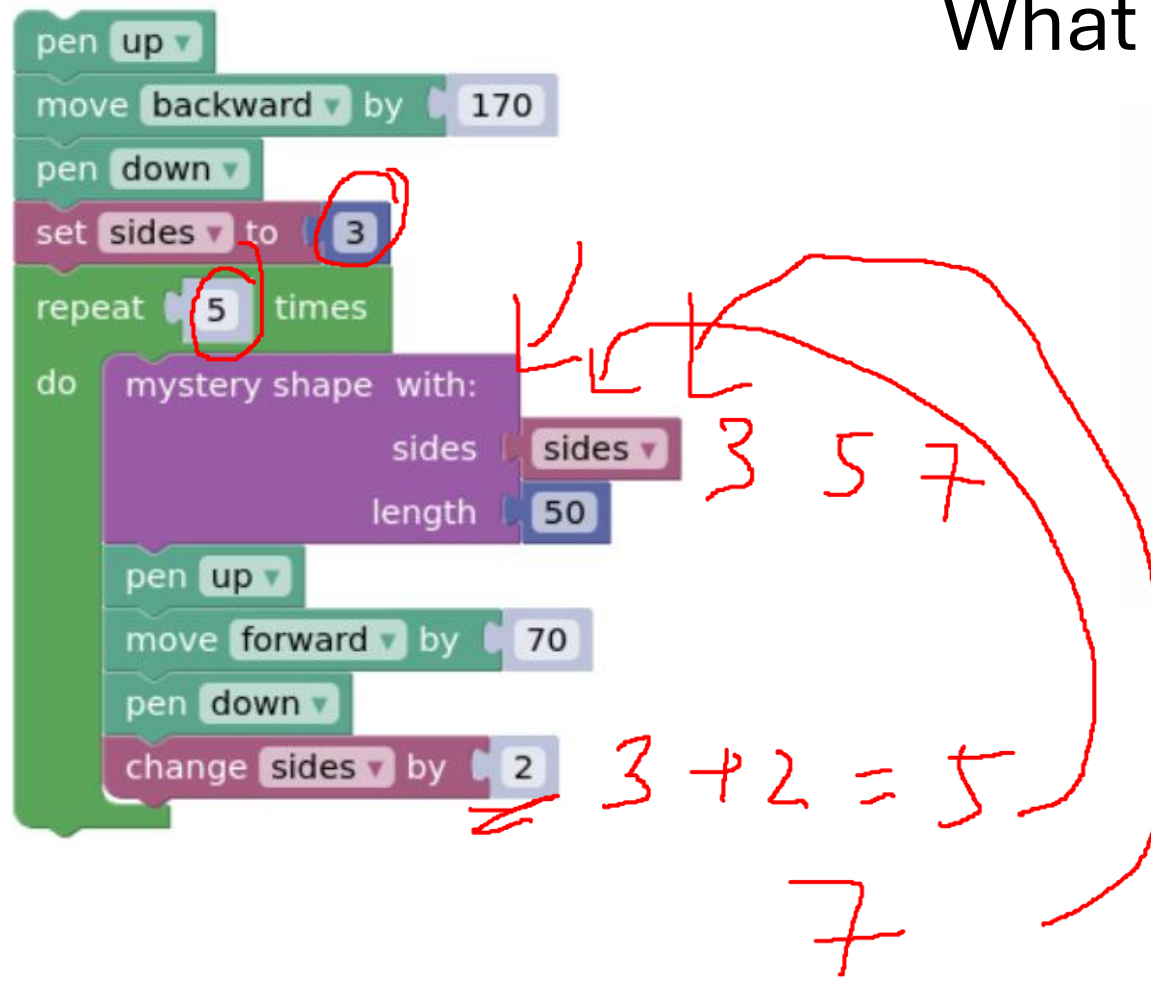


Can we make it *even* better?

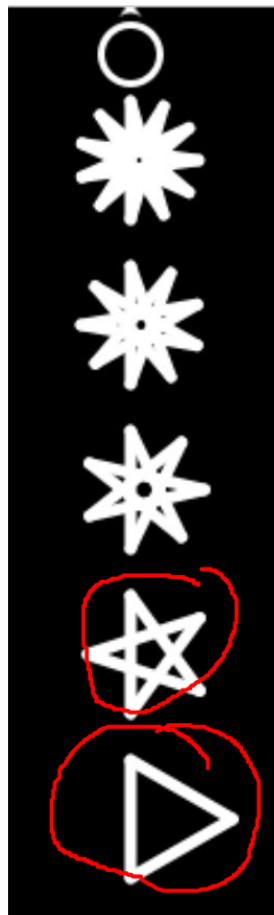


Challenge!

What does this draw?



This is a tricky one!



11
9
7
5
3

Independent work

- **Do worksheets 1 and 2 Ed (Due **11 August, 6pm**)**
 - Remember that **Ed worksheets contributes to 10% of your total score!**
- **Raise your hand** if you have any questions!