

A decorative graphic on the left side of the slide. It consists of a blue parallelogram and a light green parallelogram, both tilted at an angle. The blue shape is in the foreground, and the green shape is partially behind it. They are set against a dark blue background with faint, lighter blue diagonal stripes.

COMP1511 Tutorial 3



What are the 4 main components of a while loop?

- Initialisation - initialising the variable that controls the loop
- Condition - stating the condition that must be true for the while loop to execute its code
- Incrementation - updating the variable that controls the loop
- Body - what happens each time the while loop runs?



2D While Loops

- Nesting a while loop inside another while loop gives a 2D while loop
- Each time the outer while loop repeats, the inner while loop runs its entire cycle
- Useful of printing out rows and columns of characters, as well as looping through a 2D grid of objects



Enums and Structs

Enum: Custom data type that specifies a set of possible values for a variable to take

Struct: Custom data type that groups together different (usually related) variables



Enums and Structs

What fields would be useful to include in a struct pet?

What enums could be useful?

```
enum position {  
    laying_down,  
    sitting,  
    tummy_up  
};
```

```
struct pet {  
    double age;  
    enum position body_position;  
    int height_above_ground;  
};
```





Variable names

Legal C variable names:

- Can only contain letters, numbers and _
- Must not start with a number

Following the style guide, variable names must:

- Start with a lowercase letter
- Use snake_case (#defines should use SHOUTING_SNAKE_CASE)

Variable names should also be descriptive and relevant - for the humans who have to read them!