
Week 03

COMP 102

Victoria University of Wellington

GoSoapBox

- Gosoapbox.com
 - Access code: comp102
- Poll time
- Use Social Q&A to ask questions
 - Please don't use Zoom
 - Questions on Zoom “disappear”

FAQ

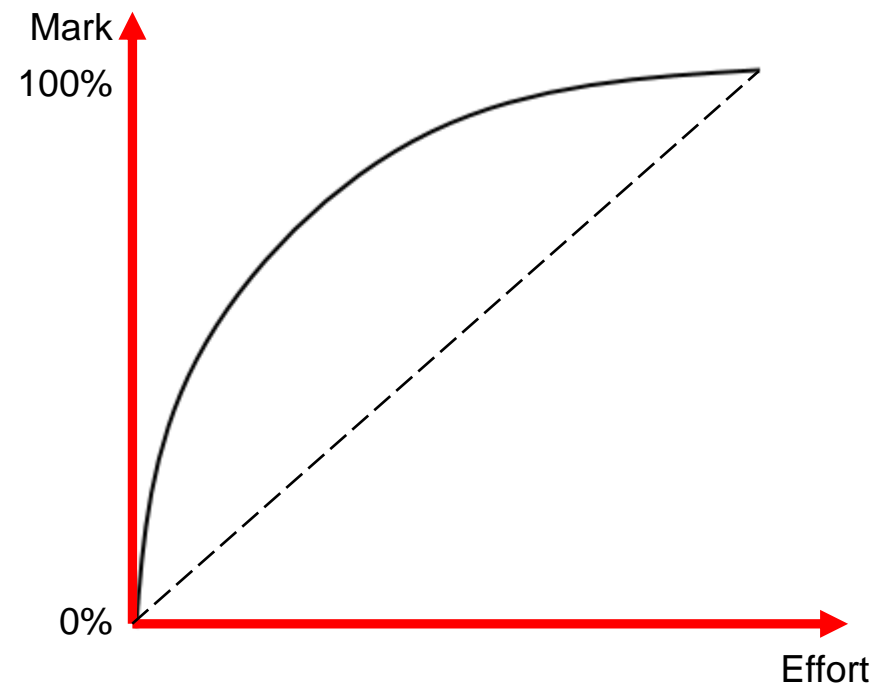
- I need to self-isolate. What should I do?
 - Fill in <https://www.wgtn.ac.nz/covid-19/all-students/covid-positive-result>
 - If you are well and have a computer at home => continue fully on the course online
 - No need to contact me
 - Go to the online lab at the time you are scheduled and do the assignments
 - Watch the lectures online (Live via Zoom or recorded)
 - If you are well, but lack appropriate computer equipment
 - Follow as much as you can
 - Apply for extension: https://ecs.wgtn.ac.nz/Courses/COMP102_2022T1/Assignments
 - If you feel poorly
 - Take care of yourself and focus on recovery.
 - Apply for extension: https://ecs.wgtn.ac.nz/Courses/COMP102_2022T1/Assignments
 - Steps to prepare for self-isolation
 - Follow section 2B in lab0 and setup you home computer

FAQ

- How do you submit the extra part about explaining? (“To go further”)
 - These are extras. You do not submit them, but they will help you learn and understand concepts
- Are labs graded?
 - No, but they are important
- Can I email Karsten directly and get a sensible answer
 - Can I have an extension?
 - Please help me!

FAQ

- How do you submit the extra part about explaining?
 - These are extras. You do not submit them, but they will help you learn and understand concepts
- Are labs graded?
 - No, but they are important
- Let's talk about grades again
 - Core: 65%
 - Replicate basic knowledge
 - Completion 80%
 - Use the knowledge to solve harder/complete problems
 - Challenge 100%
 - Open ended, own research, less defined, quality
- Have you done any baking recently?
 - Yes, several times 😊



Help

Office hours Karsten:

- Anything to do with COMP102
 - Monday 13:10-14:00 and Wednesday 14:10-16:00
 - CO252 or <https://vuw.zoom.us/my/karsten.lundqvist>
 - I won't be on Zoom outside these hours

Online help-desk:

- Any questions about code to comp102-help@ecs.vuw.ac.nz
 - Describe the issue or question
 - We only support Core and Completion directly
 - Attach .java file(s) if the question relates to code
 - Please no screen shots or code in the email

Labs

- The lab exercises
- Any Core/Completion aspects of the assignment (Mon-Wed)

Where are now?

- Let's imagine there is class call Person and using that an Object exists called Karsten
 - Similar to UI, except it controls Karsten
 - Currently it has these methods
 - Karsten.**takeSteps**(int number); //Makes Karsten take *number* of step(s)
 - Karsten.**turn**(degrees); //Makes Karsten turn *degrees* right
 - Karsten.**canMove**(int number); //returns a boolean if Karsten can take x steps
 - Therefore, we can write code like this

```
import karsten.*;
public class MoveKarsten {

    /** Move Karsten X steps*/
    public void moveBigSteps(int steps) {
        int newSteps = steps * 2;
        if (Karsten.canMove(newSteps)) {
            Karsten.takeSteps(newSteps);
        }
    }
}
```

Next week

- Object Orientation
 - Create and use object
- More on methods
 - How do we return values
 - Better design with methods
- How do we create code that repeats code without writing many lines? Looping

Common problems

- Issues with breaking the problem up into smaller pieces
 - (or perhaps not reading the assignment)
 - How do I calculate a person's protein intake as a percentage of average intake?
 - Write it down on paper or use comments
 - Several small steps involved, break it down into steps we can do
 - Ask for values, Assignment, Expression (calculations), Print text to use

Common problems

- Issues with breaking the problem up into smaller pieces
 - Or maybe not reading the assignment
 - How do I calculate a person's energy intake as a percentage of average intake?
 - Write it down on paper or use comments
 - Several small steps involved, break it down into steps we can do
 - Ask for values, Assignment, Expression (calculations), Print text to use
 - Steps
 - Calculate the intake for a household
 - Get intake (e.g. fat) from user
 - Assign to a variable
 - Calculate energy
 - Needs to repeat steps (sugar, protein)
 - add result of each energy type together
 - Calculate use per person (x)
 - Size of household
 - Divide total energy / size
 - Calculate the fraction of use compared to the average in NZ
 - $x/\text{average}$
 - Multiply by 100 to get percentage

Common problems

- Attempting to do things that Java cannot do

```
UI.println("fahrenheit = (celcius/-32)*5/9");
```

- Cannot make calculations in a String. Java treats it as text

```
double celsius = (fahrenheit = 100 - 32.0) * 5.0 / 9.0;
```

- Cannot assign a value to a variable in a expression

- Look at the example code. Replicate it *precisely*

- Cannot declare a variable twice in the same method

```
double sum = 0;
```

```
double newValue = UI.askDouble("Give me a value:");
```

```
double sum = sum + newValue;
```

- Issues with math

- () misplaced in formula, e.g.

- $\text{valueYesterday} + \text{valueNow} / \text{size} \neq (\text{valueYesterday} + \text{valueNow}) / \text{size}$

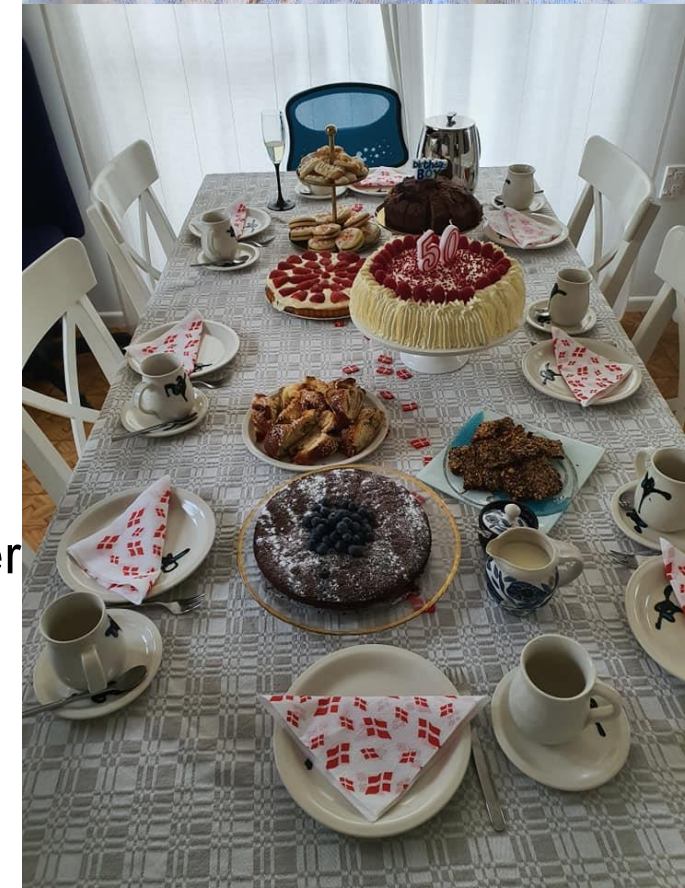
- How do we calculate % comparing to an average

Check that values are correct

- The new calculators with better usability

Gosoapbox

- Personal questions to Karsten
 - How is your hand
 - What baking have you done recently?
 - What is your favourite thing to bake
- Can we have all the assignments put up on ECS so we can work on them at our own pace?
- Do we need to attend the labs if we don't need help?
- Why does the assignment have 2 programs :'(
- Why do you put this. before calling a method?
- Questions about variables?
 - Can you set up the variable first outside the method so in the parameter of the method you don't need to write the data type for them?
 - How do I make a global variable?
 - Why use INT? Why not use DOUBLE for everything?



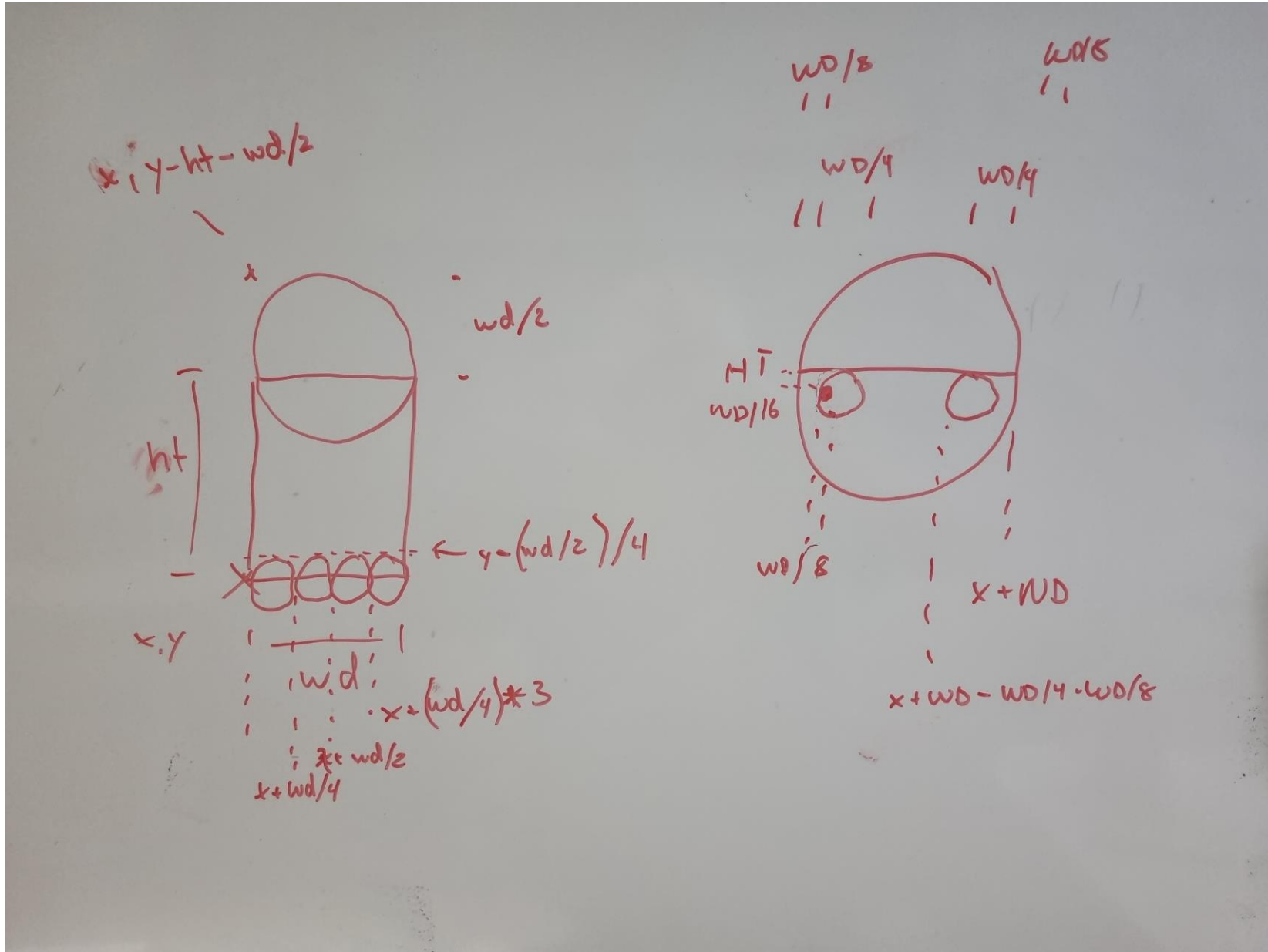
Face with a hat

- Revisit

Blinky

- Break up blinky into tasks we can do
 - Draw circles
 - Draw boxes





Ghosts

- Code review
- Make it more flexible
 - Parameters using variable
 - More ghosts = more methods
 - Blinky = Red
 - Pinky = Pink
 - Inky = Blue
 - Pokey = Yellow
 - Normal ghost / Scared ghost
 - Direction