Functional Programming

Introduction to module

Produced by: Ms. Mairead Meagher

SETU
Ollscoil
Teicneolaíochta
an Oirdheiscirt

South East
Technological
University

Agenda

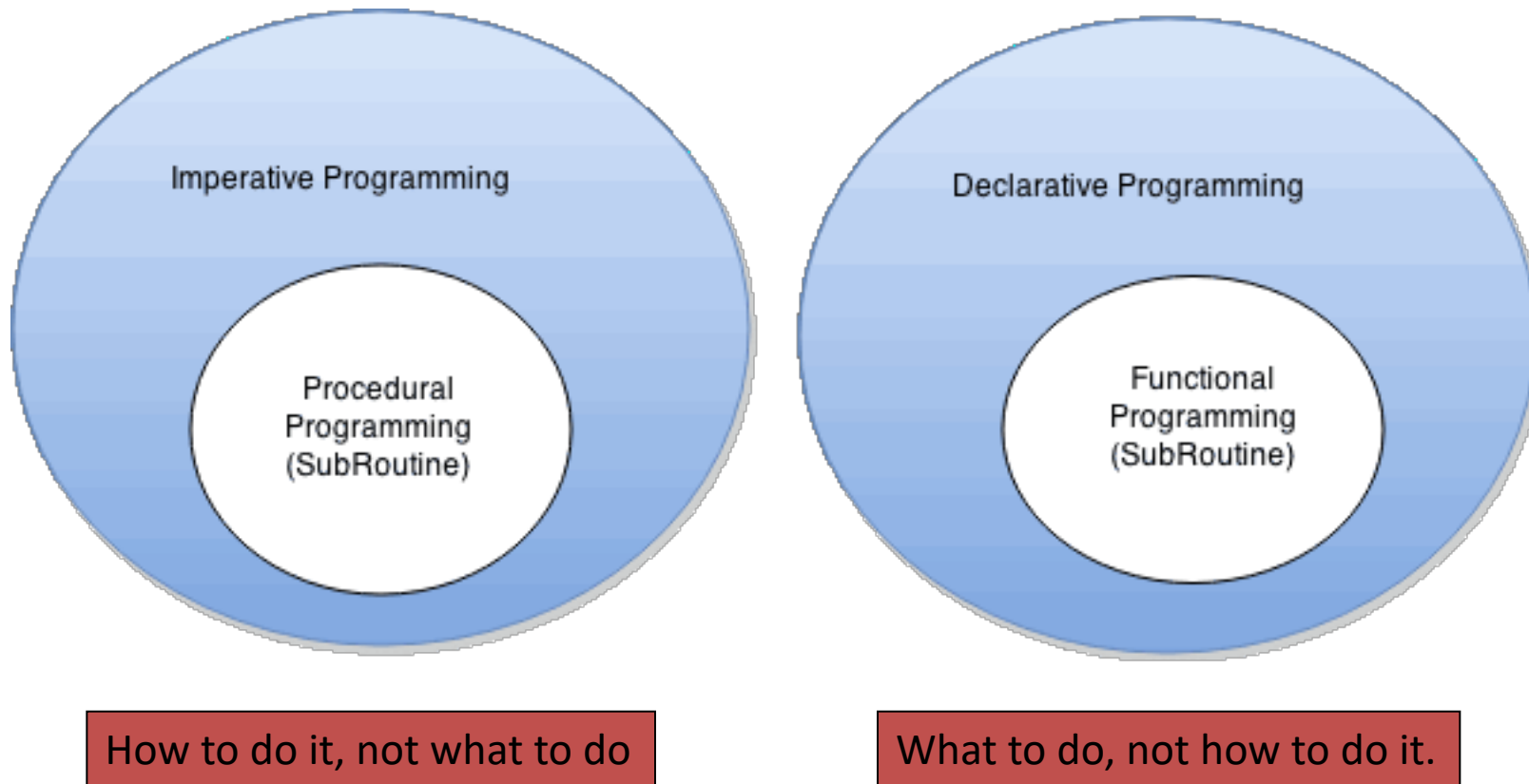- Why Functional Programming

- Overview of course

- Overview of Assessment

Why Functional Programming

- A different way to think and think about programming and solving problems.

- A great way to get good at recursion

- A lot of companies are using it..

What's different from what you've seen

Imperative Programming

Procedural Programming (SubRoutine)

Declarative Programming

Functional Programming (SubRoutine)

How to do it, not what to do

What to do, not how to do it.

What's different from what you've seen

Explain to your friend : What is an orange peanut?
(He only knows brown peanuts)

Imperative	Functional
How to do it, not what to do	What to do, not how to do it.

That brown peanut you have :
Paint it orange.
That's what an orange peanut is.

That brown peanut that you have:
If you had another peanut that's just like it in every way except that it's orange.
That's what an orange peanut is.

Differences

Imperative	Functional

Imperative:

Loops

Variables – use them for e.g. accumulating values

If [condition]
  then [command]
  else [command]

Functional:

No loops !!!

Variables cannot be changed **(immutability)**

If [condition]
  then [value]
  else [value]

More later ….

So how will we approach this module?

- 14 weeks (12 weeks of tuition)
- 4 hours per week
- Each topic will have associated with it:
  - Lecture/s (live)
  - Labs
- Each hour contact where we have either
  - lecture OR
  - Labs practising :
    - Techniques we have seen in lectures
    - Going through pre-defined sets of exercises online.

Breakdown of Assessment

Week 4	Week 9	Week 9	Week 12	Final Exam Session
5% lab test (GHCI)	5% lab test (Stack Tool)	Programming Assignment 1 (20%)	Programming Assignment 2 (20%)	50% Final exam

Ethos of Module

- Practice, practice, practice,

- Engagement – ask questions,

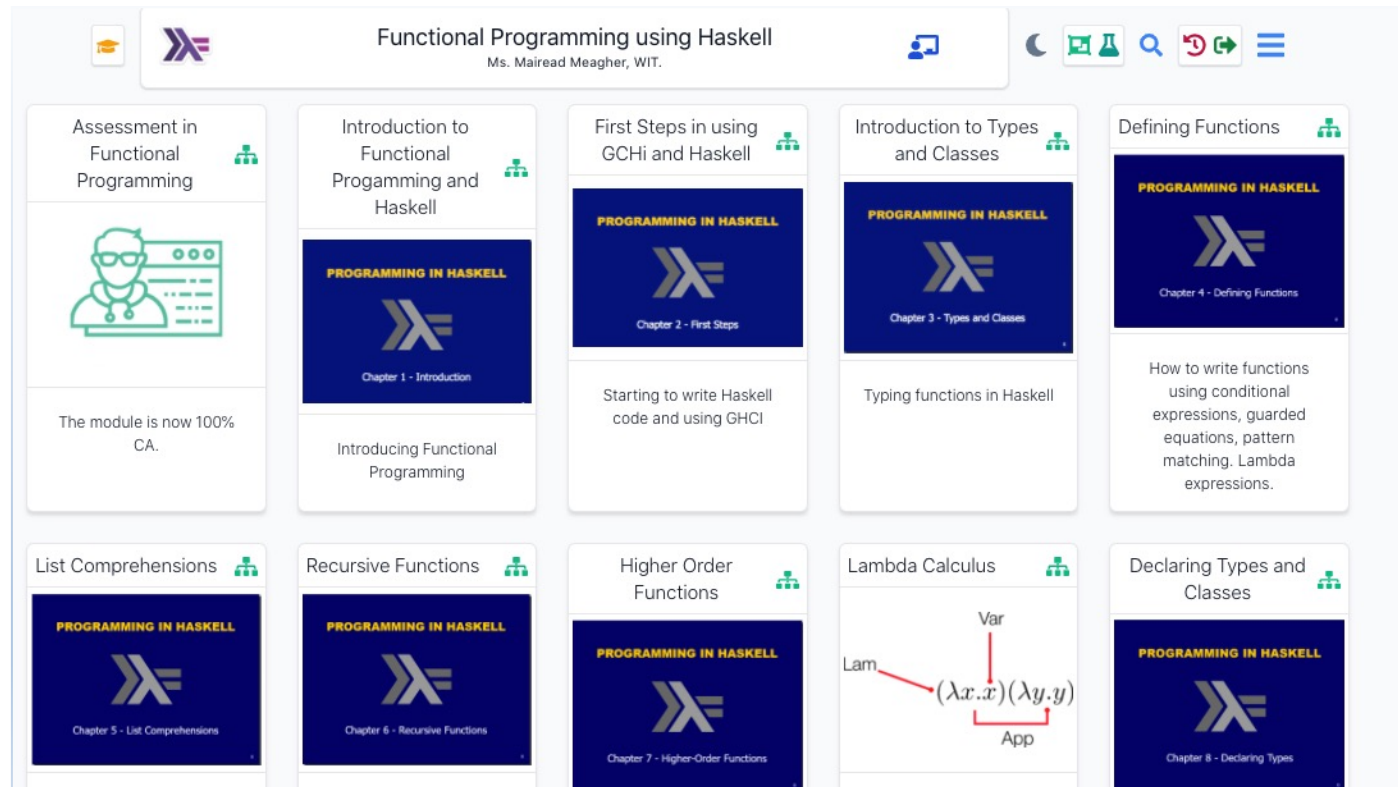- Work submitted must be your own,

- Help me to help you.

Brief Overview of Course

We will use

- Moodle – used for linking the current week's content to the appropriate topic from the tutors course

- Tutors (where course material is curated)

- Slack for communication within the group and to me. This will be the main channel for communication

Brief Overview of Course - tutors

https://reader.tutors.dev/course/fp-setu-23

Any questions?

Contact Me

Preferably the Slack channel

Or

mairead.meagher@setu.ie