

Introduction to module

Ms. Mairead Meagher

Functional Programming



Department of Computing and Mathematics
<http://www.setu.ie/>

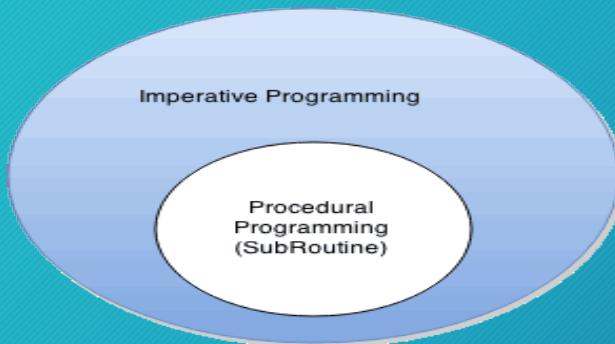
Agenda

- Why Functional Programming
- Overview of course
- Overview of Assessment

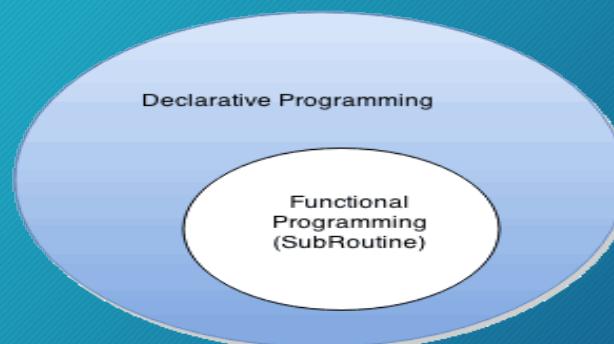
Why Functional Programming

- 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



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

How to do it, not what to do

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

Functional

What to do, not how to do it.

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

Loops

Variables - use them for e.g.
accumulating values

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

Functional

No loops !!!

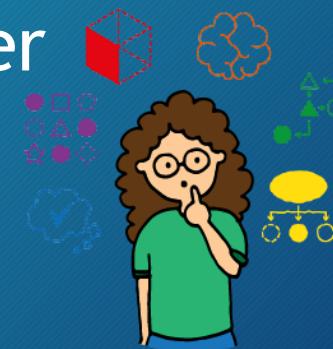
Variables cannot be changed
(immutability)

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
 - 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.



Timetable of Classes

Functional Programming Timetable for all students (i.e. no sub-groupings)				
Monday	Tuesday		Thursday	Friday
09:15:00 - 10:15 TL238				
			11:15 - 13:15 TL245	
	12:15 - 13:15 TL157			

Breakdown of Assessment

WEEK	Class	Continuous Assessment
1		
2		
3		in class lab test 5%
4		
READING		
5		
6		
7		in class lab test 5%
8		
9		
EASTER1		
EASTER2		
10		Programming Assignment 40%
11		
12		
13		Written test/interviews on PA

Ethos of Module

- Practice, practice, practice,
- Engagement - ask questions,
- Work submitted must be your fully understood by you,
- 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

The screenshot shows a web browser displaying a course page titled "Functional Programming using Haskell" by Ms. Mairead Meagher, SETU. The page features a grid of 10 cards, each representing a module or chapter. The modules are:

- Assessment in Functional... (Thumbnail: person with glasses, text: "The module is 50% CA, 50% Final Exam.")
- 1: Introduction to FP and Haskell (Thumbnail: computer screen with code editor, text: "Introducing Functional Programming")
- 2: First Steps in using GHCI and... (Thumbnail: computer screen with code editor, text: "Starting to write Haskell code and using GHCI")
- 3: Introduction to Types and Classes (Thumbnail: Haskell logo, text: "Typing functions in Haskell")
- 4: Functions and Lambda Calculus (Thumbnail: Haskell logo, text: "Functions, pattern matching, exprs, lambda")
- 5: List Comprehensions (Thumbnail: Haskell logo)
- 6: Structuring Programs (Thumbnail: Haskell logo)
- 7: Recursive Functions (Thumbnail: Haskell logo)
- 8: Higher Order Functions (Thumbnail: Haskell logo)
- 9: Interactive Programming (Thumbnail: Haskell logo)

The top navigation bar includes links for "Search" and "Layout". The bottom of the page has a yellow footer bar with the URL <https://tutors.dev/course/fun-prog-26>.

<https://tutors.dev/course/fun-prog-26>

Any questions?

Contact Me

Preferably the Slack channel

Or

mairead.meagher@setu.ie

