Multi-Paradigm Programming - Introduction

Dominic Carr

Atlantic Technological University

dominic.carr@atu.ie

What We Will Cover

1. Goals of this Session

2. Module Introduction
   - Module Descriptor
   - Learning Outcomes
   - Indicative Content
   - Assessment

Goals of this Session

Goals

- To understand....
  - What the module is about
  - The learning outcomes of the module
  - What the content will be like
  - How you will be assessed

Module Introduction

Module Descriptor

The aim of this module is to provide an introduction to various programming paradigms, such as object-oriented programming, functional programming and dataflow programming.

Learning Outcomes

- LO1 Compare different programming paradigms.
- LO2 Select an appropriate programming paradigm for a given programming problem.
- LO3 Write programs using a variety of different programming paradigms.
- LO4 Explain how various programming paradigms have evolved over time.

Indicative Content

- Imperative & Procedural Programming
  - Problem decomposition
  - Functions / Methods
- Object-Oriented Programming
  - Encapsulation
  - Data and methods Objects, classes, instances
- Dataflow programming
  - Tables, spreadsheets, tensors, Dataflow graphs
  - Sessions
- Functional programming
  - Lists, pairs
  - Map, reduce
  - Recursion

Assessment

- Programming Project (70%)
  - Procedural & Object-Oriented
- Quiz Type Examination (30%)
  - Content from across the module

The End