Multi-Paradigm Programming - Introduction

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What We Will Cover

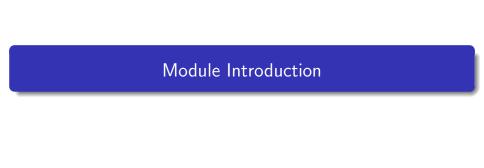
Goals of this Session

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



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 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

- ${\color{red}\mathsf{LO1}}\ \ \mathsf{Compare}\ \mathsf{different}\ \mathsf{programming}\ \mathsf{paradigms}.$
- 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

