OBJECT-ORIENTED ANALYSIS and DESIGN

Basic Principles

"Object-Oriented"

- Objects ("data capsule")
  - data element (attributes)
  - functional element (services)
- Messages
  - addressed to object service
  - carries information (parameters)
  - triggers execution of service(s)

Object-Oriented Analysis & Design

Requirements

System Design

Detailed Design

Implementation

Installation & Testing

Maintenance

Object-Oriented Programming

Basic Concepts and Goals:

- description and analysis of functional & structural properties of systems
- analyse the target system by finding
  - object instances, relations & interactions
- generalise your findings, identify and document
  - object classes, structures & messages

Complete Object-Oriented Analysis and Design Model

- Static Object Diagram
  - object classes
  - structures / relations
- Dynamic Object Diagrams
  - scenarios
  - message passing
- Object Dictionary
OOAD - OOP
Object Oriented Analysis, Design, and Programming

- books by Coad, Yourdon, Nicola 1991, 1993
- covers complete life-cycle
- support by tools, books, user-groups, etc.
- extensions and variations
- compatible with other methods

We will focus on Object-Oriented Analysis & Design

The Steps of OOAD - Part 1

- identify object (classes)
- identify structures
  - generalisation - specialisation ("IS-A")
  - whole - parts ("PART-OF")
  - association (relationship)
- define attributes
  ==> Static Object Diagram
  ==> incomplete Object Dictionary

The Steps of OOAD - Part 2

- define services
  - services per object
  - message passing between objects
  - coordination of message passing

  ==> Scenarios
  ==> complete Object Dictionary
End of Section 11a

coming up:
more about
OOAD