

# 5 The class diagram

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## Learning outcomes

The material and exercises in this chapter will enable you to:

- Explain the role and purpose of the class diagram in the early phases of development
- Recognize different stages in building a class diagram
- Identify the objects and classes in a system and their attributes
- Construct a class diagram
- Write a data dictionary to support the class diagram
- Use packages to group related classes.

## Key words you will find in the glossary:

- aggregation
- application domain
- association
- attribute
- class
- collaboration
- data dictionary
- domain model
- inheritance
- multiplicity
- noun analysis
- object
- operation
- package
- problem domain
- use case realization

## Introduction

The class diagram is central to object-oriented analysis and design, it defines both the software architecture, i.e. the overall structure of the system, and the structure of every object in the system. We use it to model classes and the relationships between classes, and also to model higher-level structures comprising collections of classes grouped into packages. The class diagram appears through successive iterations at every stage in the development process. It is