



Objects as a programming concept

IB Computer Science



*Content developed by
Dartford Grammar School
Computer Science Department*



HL Topics 1-7, D1-4



1: System design



2: Computer Organisation



3: Networks



4: Computational thinking



5: Abstract data structures



6: Resource management



7: Control



D: OOP

HL & SL D.1 Overview

D.1 Objects as a programming concept

D.1.1 Outline the general nature of an object

D.1.2 Distinguish between an object (definition, template or class) and instantiation

D.1.3 Construct unified modelling language (UML) diagrams to represent object designs

D.1.4 Interpret UML diagrams

D.1.5 Describe the process of decomposition into several related objects

D.1.6 Describe the relationships between objects for a given problem

D.1.7 Outline the need to reduce dependencies between objects in a given problem

D.1.8 Construct related objects for a given problem

D.1.9 Explain the need for different data types to represent data items

D.1.10 Describe how data items can be passed to and from actions as parameters



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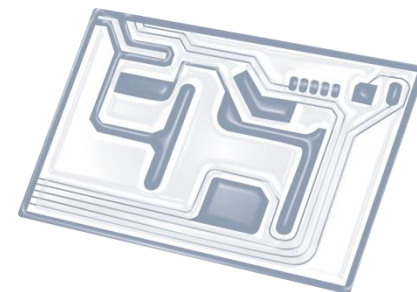
6: Resource management



7: Control

D: OOP

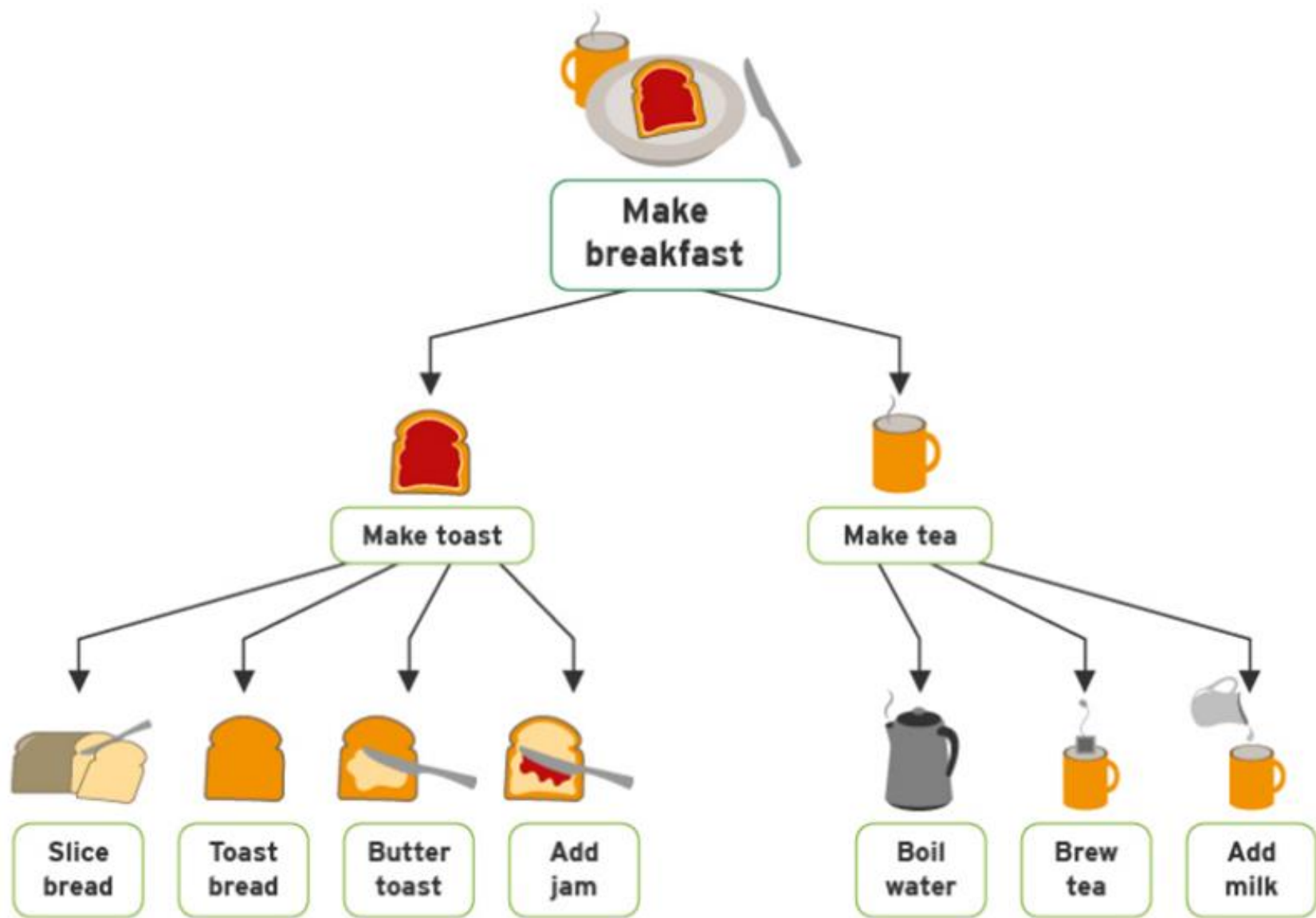




Topic D.1.5

Describe the process of **decomposition** into several **related objects**

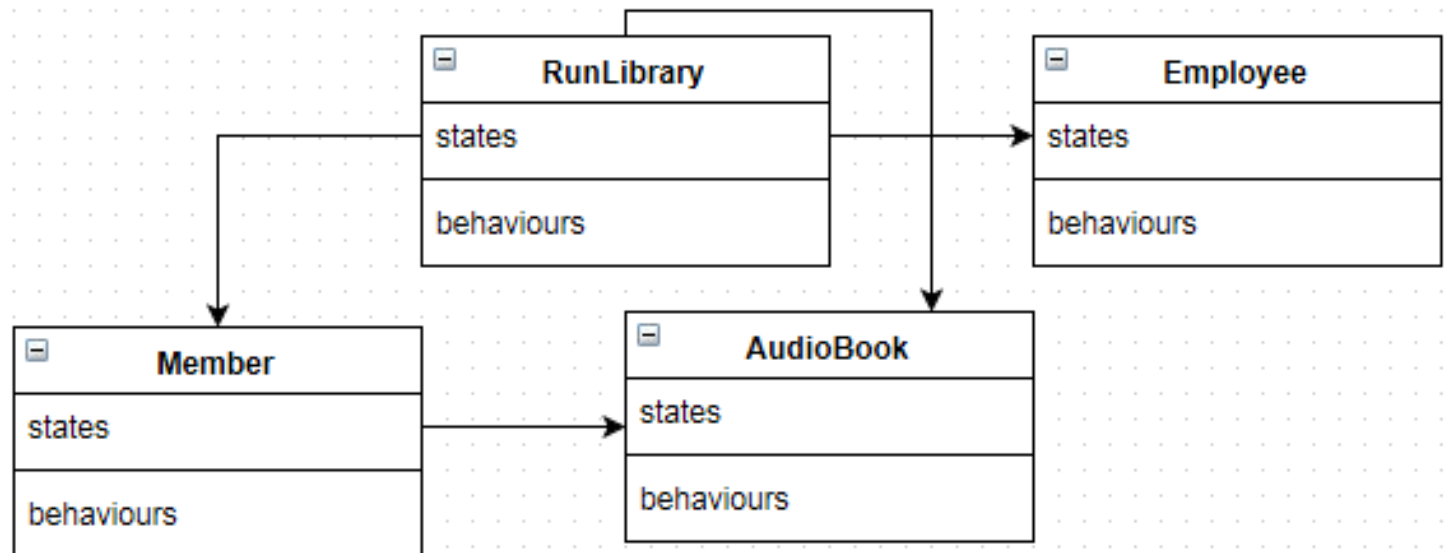




Turning a problem into objects

A library rents out
audio books on CD to
members.
They employ 18 staff
members .

Decomposition



Practice with these

- Employers
- Traffic simulation model
- Calculator
- Calendar
- Media Collections

