

Topic 20: Further Programming

Keyword sheet - Cambridge AS & A Level Computer Science 9618. Tick each term once you can define it from memory.

Keyword	Definition	Know it?
Programming paradigm	Style of programming: imperative, object-oriented, declarative, functional, logic.	
Imperative / declarative	Specifies how to achieve a result / specifies what the result should be.	
Object-oriented programming (OOP)	Paradigm organised around objects combining data and methods.	
Class / object / instantiation	Blueprint / instance / creating an object from a class.	
Attribute / method / constructor	Data held in an object / a subroutine of a class / method that initialises an object.	
Encapsulation	Bundling data and methods and restricting direct access (private attributes with getters and setters).	
Inheritance	A subclass acquires attributes and methods of a superclass.	
Polymorphism / overriding	Same method name behaving differently in different classes / a subclass redefining an inherited method.	
Composition / aggregation	Part cannot exist without whole / part can exist independently.	
Functional programming	Programs built from functions with no side effects; first-class and higher-order functions.	
Logic programming	Programs written as facts and rules, queried with a goal; e.g. Prolog.	
Backtracking / unification	Retrying alternatives when a goal fails / matching terms to find variable bindings.	
Exception / exception handling	Run-time error event / code (TRY, CATCH) that responds to it without crashing.	
File processing	Opening, reading, writing and closing files; serial, sequential and random access.	
Addressing modes (low-level)	Immediate, direct, indirect, indexed and relative.	