



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.3 Overview

D.3 Program development

D.3.1 Define the terms: class, identifier, primitive, instance variable, parameter variable, local variable

D.3.2 Define the terms: method, accessor, mutator, constructor, signature, return value

D.3.3 Define the terms: private, protected, public, extends, static

D.3.4 Describe the uses of the primitive data types and the reference class string

D.3.5 Construct code to implement assessment statements

D.3.6 Construct code examples related to selection statements

D.3.7 Construct code examples related to repetition statements

D.3.8 Construct code examples related to static arrays

D.3.9 Discuss the features of modern programming languages that enable internationalization

D.3.10 Discuss the ethical and moral obligations of programmers



1: System design

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5: Abstract data structures

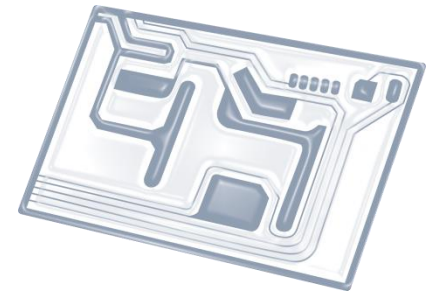
6: Resource management



7: Control

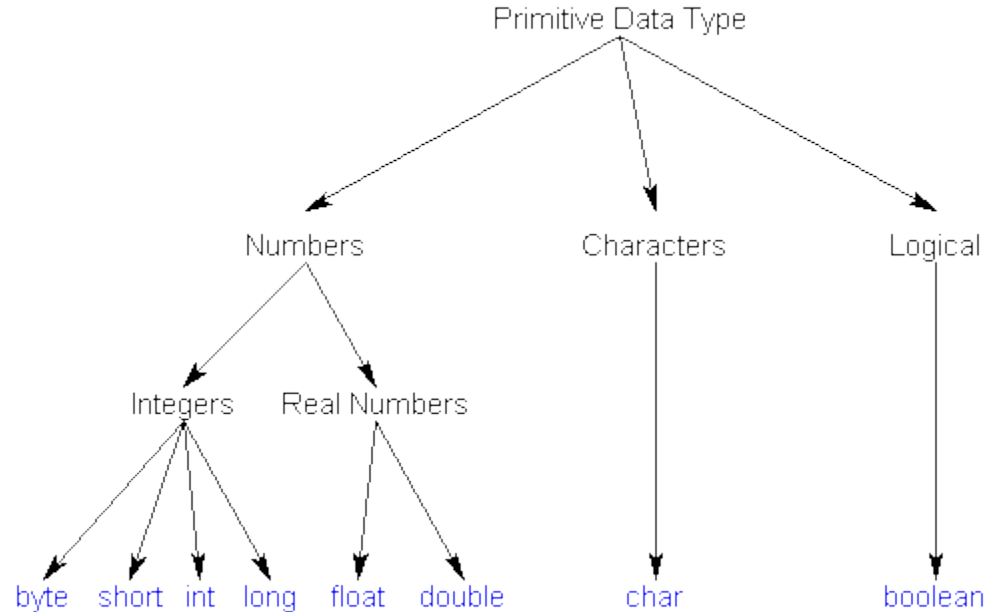
D: OOP





Topic D.3.4

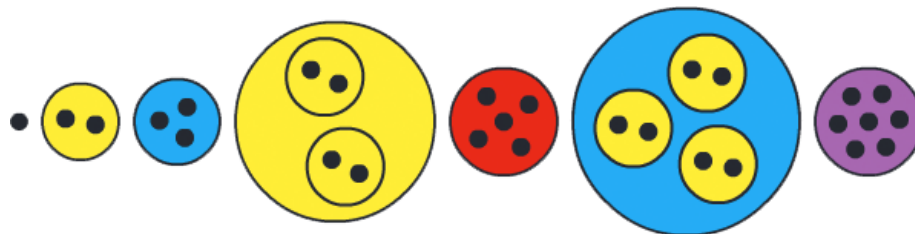
Describe the use of **primitive data types** and the reference class **String**





Exam note 1!

- In examination questions, the primitive types will be limited to *int*, *long*, *double*, *char* and *Boolean*.
- Primitive data types are most commonly used to store simple values. They are also used as the building blocks of the more complex abstract data types.
- Although *String* is not a primitive data type, it is considered a 'basic' type as it is used to store simple values.

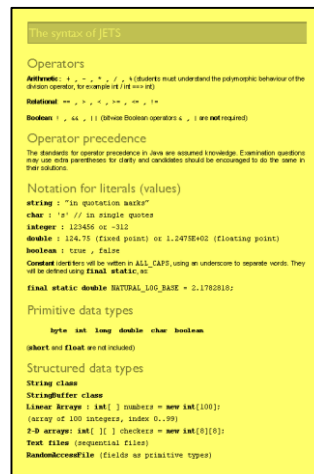
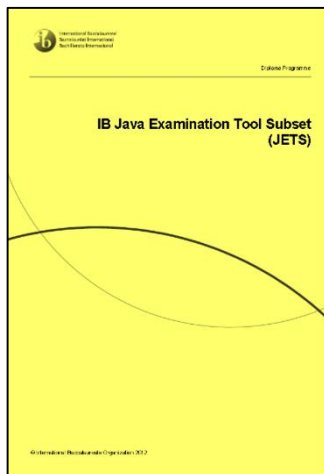




Exam note 2!

This curriculum point relates closely to the details published in the JETS booklet.

You will **NOT** get a copy of this booklet in the Paper 2 exam.



Example question

Q: Why would you store the number of car spaces in a integer type variable, as opposed to another type(s)?

A: *The number of cars is unlikely to a fraction (you cannot realistically park 0.2 of a car). It is also likely that you will have to count the number of cars that have been parked, and Strings cannot be used to calculate numerical answers (without casting the values they contain to integer-type numbers). Booleans can only contain true or false as is therefore not useful as a data type in this scenario.*