

AP Computer Science A

Trial Lesson 1

Section	Question Type	Number of Questions	Exam Weighting	Timing
I	Multiple-choice questions	40	50%	90 minutes
II	Free-response questions	4		90 minutes
	Question 1: Methods and Control Structures (9 points)		12.5%	
	Question 2: Class (9 points)		12.5%	
	Question 3: Array/ArrayList (9 points)		12.5%	
	Question 4: 2D Array (9 points)		12.5%	

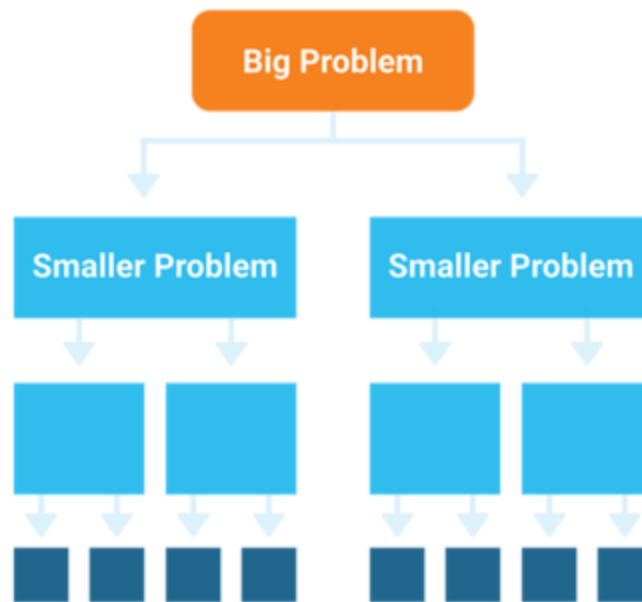
The exam assesses content from the three big ideas for the course:

Big Idea 1: Modularity

Big Idea 2: Variables

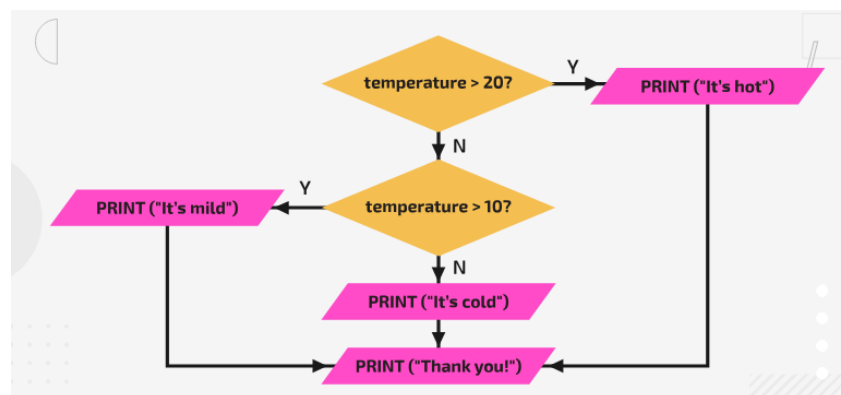
Big Idea 3: Control

Units	Exam Weighting
Unit 1: Primitive Types	2.5–5%
Unit 2: Using Objects	5–7.5%
Unit 3: Boolean Expressions and if Statements	15–17.5%
Unit 4: Iteration	17.5–22.5%
Unit 5: Writing Classes	5–7.5%
Unit 6: Array	10–15%
Unit 7: ArrayList	2.5–7.5%
Unit 8: 2D Array	7.5–10%
Unit 9: Inheritance	5–10%
Unit 10: Recursion	5–7.5%



NAME	VALUE	TYPE
number	123	int
sum	-456	int
pi	3.1416	double
average	-55.66	double

A variable has a name, stores a value of the declared type



Abstraction

Hiding complex details to focus on what's important.

Algorithm

A step-by-step set of instructions used to solve a problem or complete a task.

Array

A fixed-size list that stores multiple values in order.

ArrayList

A resizable list that stores objects; more flexible than arrays.

Binary number system

The binary system is a base-2 system — it only uses 0 and 1. In contrast, the decimal system is a base-10 number system — it uses digits from 0 to 9.

Bit

From “binary digit.” Smallest unit of computer memory, taking on only two values, 0 or 1.

Boolean / Condition

A condition that is either true or false.

Byte

Eight bits. Similarly, megabyte (MB, 10⁶ bytes) and gigabyte (GB, 10⁹ bytes).

Class / Object

A class is a blueprint; an object is a real thing created from that blueprint.

Compiler

A program that translates source code into object code (machine language).

Data

Raw information: numbers, text, images, etc. used by programs.

IP Address

A unique identifier for every device on the internet.

Iteration

The repetition of a set of steps until a condition is met. Like trying on clothes until one fits — repeat until the goal is reached. In code, it's done with loops like for or while.

Method

A reusable block of code that performs a specific task.

Packet

A small chunk of data sent over the internet.

Recursion

A method that calls itself to solve smaller pieces of a problem.

Variable

A named container that stores data which can change.

Server

The hub of a network of computers. Stores application programs, data, mail messages, and so on, and makes them available to all computers on the network.

Software

Computer programs written in some computer language and executed on the hardware after conversion to machine language. If you can install it on your hard drive, it's software (e.g., programs, spreadsheets, word processors).

Source code

A program in a high-level language like Java, C++, Pascal, or FORTRAN.