

The **AP Computer Science A** exam tests students on their **knowledge of Java**¹. It is meant to be the equivalent of a first-semester college course in computer science.

It is equivalent to GT **CS 1301. Introduction to Computing (3 Credit Hours)**, introduction to **computing principles** and **programming practices** with an emphasis on the **design, construction** and **implementation** of problem solutions use of software tools. The following topics (units), skills, and extracurriculars are going to be covered during the tutor sessions.

Unit	Exam Weighting (Multiple-Choice Section)
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%

Skill	Description	Exam Weighting (Multiple-Choice Section)
1. Program Design and Algorithm Development	Determine required code segments to produce a given output.	30%–35%
2. Code Logic	Determine the output, value, or result of given program code given initial values.	40%–45%
3. Code Implementation	Write and implement program code.	Not assessed in the multiple-choice section
4. Code Testing	Analyze program code for correctness, equivalence, and errors.	12%–18%
5. Documentation	Describe the behavior and conditions that produce identified results in a program.	12%–18%

Reference: <https://apstudents.collegeboard.org/courses/ap-computer-science-a>

¹ **Java** is a high-level, class-based, **object-oriented programming** language owned by Oracle Corporation. Java is widely used for building enterprise-scale applications, web applications, mobile applications (Android).

Our class will be organized in the following way to differentiate programming paradigm into procedural programming (PP) and object-oriented programming (OOP).

Unit	Exam Weighting (Multiple-Choice Section)
Unit 1: Primitive Types	2.5%-5%
Unit 3: Boolean Expressions and if Statements	15%-17.5%
Unit 4: Iteration	17.5%-22.5%
Unit 10: Recursion	5%-7.5%
Unit 6: Array (dynamic programming)	10%-15%
Unit 8: 2D Array	7.5%-10%
Unit 5: Writing Classes	5%-7.5%
Unit 2: Using Objects	5%-7.5%
Unit 7: ArrayList	2.5%-7.5%
Unit 9: Inheritance	5%-10%