



Introduction

About the course:

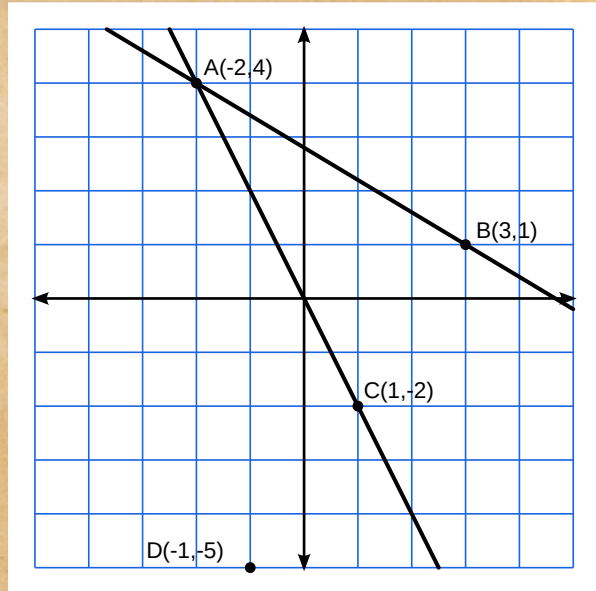
AP Computer Science A

Lecture Contents

- Prerequisites
- Course Objectives
- Requirements
- Big Ideas
- *AP Computer Science A Exam*
- Course Outline
- College Board *AP Classroom*

Prerequisites

- Mathematics
 - A year of high school algebra
 - Able to use a Cartesian (x, y) coordinate system
- NO computer science experience is necessary



Course Objectives

- Prepare students for the ***AP Computer Science A*** exam
 - Learn a significant amount of computer programming jargon
 - Learn the ***AP Java Subset***
 - Be able to understand how a computer “thinks”
 - Understand how data is stored in a computer (**data structures**)
 - Come up with computer **algorithms** that will solve a given problem
 - Design **object oriented** programs
- Stimulate an interest in computer science


Requirements


- Writing programs in **Java**
 - Significant amount of hands-on computer laboratory work
 - Writing computer programs by hand on paper
- Evaluation
 - Java Projects
 - Must be coded individually, NOT copied from others
 - Students may be called on to explain how code works
 - Multiple choice and written coding exams
 - Preparation for the *AP Computer Science A* exam.

Big Ideas

- The following big ideas serve as the foundation of the course
 - **Modularity** – break down complex problems into simpler ones
 - **Variables** – structure data in a useful way
 - **Control** – order, repetition, making decisions
 - **Impact of Computing** – privacy, security, ethics

AP Computer Science A Exam



- 3 hours long
 - 40 Multiple Choice – 90 minutes, 50% of score
 - 4 Free-response Coding Questions – 90 minutes, 50% of score; equally weighted:
 - Q1: Methods and Control Structures
 - Q2: Classes
 - Q3: Array / ArrayList
 - Q4: 2D Array
- 

Course Outline

- Ten Units

1. Primitive Types

2. Using Objects

3. Boolean Expressions and
“if” Statements

4. Iteration

- 5. Writing Classes

- 6. Array

- 7. ArrayList

- 8. 2D Array

- 9. Inheritance

- 10. Recursion

Online College Board Classroom

- College Board website:
 - apcentral.collegeboard.org
- Our class “join code”:



Introduction

About the course:

AP Computer Science A