



AP Computer Science A: Advanced Placement Lab

Student Guide

*The WW-P HSN Computer Science Club wishes to acknowledge
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CollegeBoard

Advanced Placement Lab: Student Guide

Introduction

In this lab you will be learning the art of **reversing**, or reverse engineering through understanding the functionality of programs. For each activity challenge, your goal will be to reconstruct the flag in a simple Java program heresy i know given the source file or a compiled Java file.

Activities

You will be working through a set of activities. These activities will consist of:

- Computer Science Principles (1)
- English Language (2)
- 3D Design (3)
- Statistics (4)

A1: Computer Science Principles

This activity will ask you to reverse a basic program and solve an introductory reversing challenge. You will be given an output that is to be used in order to reconstruct the input, which is the flag.

A2: English Language

The AP English Language activity will present to you about manipulating strings and arrays. Again, an output will be given where you have to reconstruct an input.

A3: 3D Design: Alyx

In this activity, you reverse engineer a flag on a 3D array by manipulating its individual bits. However, only a compiled .class file will be given rather than Java code.

A4: Statistics

In AP Statistics, you will be shown a program consisting of random and manipulated numbers. Similarly to AP 3D Design, only a compiled .class file will be given rather than Java code.