AP Computer Science A Workshop 2017

Pacific Northwest AP* Institute, Bellevue, Washington

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This workshop is designed to provide opportunities to AP Computer Science A teachers for exploring the AP Computer Science curriculum (including the AP Labs), available resource materials for teaching the APCS A course, effective teaching and assessment strategies, and the Java programming language. Actual AP Computer Science Exam questions will be examined and student responses will be scored in order to provide valuable insights into what students must do to successfully complete the AP exam. Future directions for the Advanced Placement Computer Science program will be discussed. These discussions will include the new labs that will be incorporated into future exams, and the Computer Science Principles pilot courses that have been taught over the last three years.

Day 1

Welcome and Introduction of the Participants and the Instructor – Experienced teachers will share their perspectives on teaching APCS A. All teachers will share their top priorities for the week.

Society Supporting the Expansion of Computer Science Education!

Course Expectations, Final Project Description, Logistics, Materials, IDEs, etc.

Introduction to AP Computer Science A – Course Description


Teaching Strategies, Pedagogy, Procedural vs. Object Oriented Programming

Starting an APCS A Course – Resources, Recruitment, Equity, Journals, etc.

Fundamental Data Types, Objects, Declarations, Conditionals, Iteration

Using BlueJ to create Java Programs – Procedural Examples and Object Oriented Examples

http://bluej.org/

The String Class – Magpie Lab

Day 2

Gathering and Sharing APCS A Resources

http://codingbat.com/java
http://ice.cc.gatech.edu/apexam_test/
http://codeinthebrowser.org/
http://technews.acm.org/
Day 2 (continued)

Simple Input and Output with Java – Scanner, JOptionPane

Achieving Equity in APCS

Interfaces and Polymorphism – The List Interface

http://docs.oracle.com/javase/7/docs/api/

Writing programs for List Manipulations

Day 3

Inheritance and Class Hierarchies – Elevens Lab (The Gridworld Case Study)


Creating new Cards, Decks, Hands (Actors, Bugs, Critters from Gridworld classes)

The AP Computer Science Exam


AP Reading – Scoring AP Computer Science Exams

Released Exams, AP Course Audit


Sample Projects – Sudoku, SOS, PegGame, FunGrapher, Card and Deck, etc.

Day 4

The future of AP Computer Science – Computer Science Principles

http://www.csprinciples.org/

Conferences and Teacher Networking

http://csta.acm.org/
http://csta.acm.org/ProfessionalDevelopment/sub/CSITConference.html
http://www.sigcse.org/sigcse2013/
http://apac.collegeboard.org/

Completing the Final Project – Creating Assignments, Assessments, Activities, and Programs

Sharing Renewed Perspectives

Final Questions, Comments, and Planning for Future Communications