### **Create Performance Task**

### **Duration: 3 Weeks**

### **Summary**

This lesson is the AP Test Create Performance Task. It has the students create an original program (collaboration is strongly encouraged but not required). The students are to be given 12 hours of class time. In addition to the 12 hours class time, students may work on the Create performance task outside of the classroom if they choose to. They are to do this without teacher feedback or assistance - it is part of the AP exam.

### **Learning Objectives**

* Apply a creative development process when creating computational artifacts. [AP CSP P2, LO 1.1.1]
* Create a computational artifact using computing tools and techniques to solve a problem. [AP CSP P2, LO 1.2.2]
* Create a new computational artifact by combining or modifying existing artifacts. [AP CSP P2, LO 1.2.3]
* Collaborate in the creation of computational artifacts. [AP CSP P6, LO 1.2.4]
* Analyze the correctness, usability, functionality, and suitability of computational artifacts. [AP CSP P4, LO 1.2.5]
* Create a computational artifact for creative expression. [AP CSP P2, LO 1.2.1]
* Develop an abstraction when writing a program or creating other computational artifacts. [AP CSP P2, LO 2.2.1]
* Use multiple levels of abstraction to write programs. [AP CSP P3, LO 2.2.2]
* Develop an algorithm for implementation in a program. [AP CSP P2, LO 4.1.1]
* Express an algorithm in a language. [AP CSP P5, LO 4.1.2]
* Develop a program for creative expression, to satisfy personal curiosity, or to create new knowledge. [AP CSP P2, LO 5.1.1]
* Develop a correct program to solve problems. [AP CSP P2, LO 5.1.2]
* Explain how programs implement algorithms. [AP CSP P3, LO 5.2.1]
* Use abstraction to manage complexity in programs. [AP CSP P3, LO 5.3.1]
* Evaluate the correctness of a program. [AP CSP P4, LO 5.4.1]
* Collaborate to develop a program. [AP CSP P6, LO 5.1.3]
* Employ appropriate mathematical and logical concepts in programming. [AP CSP P1, LO 5.5.1]

### **Course Material**

* Read: [Planning a Programming Project](https://www.khanacademy.org/computing/computer-programming/programming/good-practices/a/planning-a-programming-project)
* Watch: [SCRUM Process For Programming](https://www.youtube.com/watch?v=5bbFrXiPgT4&feature=youtu.be) [26:53]

### **Teacher Resources**

* [Guidelines for the Create - Applications from Ideas Performance Task](https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-computer-science-principles-course-and-exam-description.pdf#page=83) (pages 76 - 81)
  + Guidelines provide example forms of collaboration (pages 79 - 81).

**Example**

The following samples of the AP CSP performance tasks demonstrate the type of responses that would receive a high score with the current performance task rubrics.

* [Sample 1](http://apcentral.collegeboard.com/apc/public/exam/computer_science_principles/232630.html) (High score)
* [Sample 2](http://apcentral.collegeboard.com/apc/public/exam/computer_science_principles/232631.html) (Medium score)
* [Sample 3](http://apcentral.collegeboard.com/apc/public/exam/computer_science_principles/232632.html) (Low score)
* [Additional Information](http://apcentral.collegeboard.com/apc/public/exam/exam_information/231726.html?ep_ch=PR#anchor3) with High, Medium, and Low scoring guidelines

### **Assessments**

* Do the Explore performance task as specified in the [AP Computer Science Principles Course and Exam Description](https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-computer-science-principles-course-and-exam-description.pdf#page=118) (pages 111 - 113).
* Final tasks are to be submitted through the AP Digital Portfolio.
  + Digital Portfolio [Teacher User Guide](https://secure-media.collegeboard.org/digitalServices/pdf/ap/computer-science-principles-digital-portfolio-teacher-guide.pdf?ep_ch=PR&ep_mid=11294423&ep_rid=240766735)
  + Digital Portfolio [Student User Guide](https://secure-media.collegeboard.org/digitalServices/pdf/ap/computer-science-principles-digital-portfolio-student-guide.pdf?ep_ch=PR&ep_mid=11294423&ep_rid=240766735)