2017

AP Computer Science Principles

Scoring Guidelines

© 2017 The College Board. College Board, Advanced Placement Program, AP, AP Central, and the acorn logo are registered trademarks of the College Board. Visit the College Board on the Web: www.collegeboard.org.

AP Central is the official online home for the AP Program: apcentral.collegeboard.org

AP® COMPUTER SCIENCE PRINCIPLES 2017 SCORING GUIDELINES
Performance Task: Explore

Scoring Guidelines

The Explore Performance Task will be evaluated based upon the 7 discrete criteria listed below. Each criteria is scored individually on a binary scale (i.e., each criteria can earn a score of 1 or 0) for a total of 7 possible points.

The first criteria is evaluated based upon the computational artifact, using the written response as needed. The remaining six criteria are evaluated based upon the written response.

Computational Artifact (and Written Response as needed)	
1	The computational artifact identifies the **computing innovation** and provides an illustration, representation, or explanation of the computing innovation's intended purpose, function, or effect.

Written Response	
2	States a plausible fact about the **computing innovation's** intended purpose or function.
3	Identifies at least ONE effect of the **computing innovation**.
4	Identifies a beneficial effect AND a harmful effect of the **computing innovation**. Explains how ONE of the identified effects impacts or has the potential to impact society, economy, or culture.
5	Identifies the data that the **computing innovation** uses. Explains how that data is consumed, produced, OR transformed.
6	Identifies one storage, privacy, OR security concern. Explains how the concern is related to the **computing innovation**.
7	Provides inline citations of at least 3 attributed sources within the written response. The citations must be used to justify the response.

Copyright © 2017. The College Board.

AP® COMPUTER SCIENCE PRINCIPLES 2017 SCORING GUIDELINES
Performance Task: Explore
Scoring Notes

Criteria	Response earns point if...	Response does not earn point if:	Additional notes/reminders
Using Development Processes and Tools Criteria 1: The computational artifact identifies the **computing innovation** and provides an illustration, representation, or explanation of the computing innovation's intended purpose, function, or effect. LO: 1.2.1 OR 1.2.2 Weighted: 20%	● There is an artifact. **AND** ● The artifact identifies the innovation explicitly. **AND** ● The artifact states or illustrates clearly a plausible function or purpose of the innovation.	● There is no artifact. ● The artifact identifies an innovation that does not match the innovation described in the written responses. ● the artifact and written response do not identify the innovation clearly ● the artifact and written response do not give a function, purpose or effect of the innovation	● This score is based on the computational artifact. As needed, the written response can be used to provide clarification of the intent of the computational artifact to convene the computing innovation's name and intended purpose, function or effect. ● The name of the computing innovation needs to be explicitly stated, not implied. ● If the chosen innovation is a tool used to create the artifact, the artifact must illustrate the tool itself, not a product/outcome of the tool.
Analyzing Impact of Computing Criteria 2: States a plausible fact about the **computing innovation's** intended purpose or function. LO: 7.1.1, 7.3.1 Weighted: 10%	● The written statement includes the intended purpose or function of the computing innovation from a design perspective. (Think: how it works, what is it used for.)	● The written statement does not include the intended purpose or function of the innovation. ● The written statement gives an effect (which is required for criteria #3, not criteria #2).	● This score should be based solely on the written responses. ● Citations are allowed but not required here.
Analyzing Impact of Computing Criteria 3: Identifies at least ONE effect of the **computing innovation**. LO: 7.1.1, 7.3.1 Weighted: 15%	● The response states an effect (beneficial or harmful). (The effect does not need to be specifically identified as beneficial or harmful.)	● The response does not state an effect. (The purpose or function of the computing innovation is not the effect of the innovation.)	● This score should be based solely on the written responses. ● The response does not need to describe the effect. ● The response does not need to connect the effect with society, economy or culture. ● The effect can be the same as one of the effects identified in criteria 4.

Copyright © 2017. The College Board.

AP® COMPUTER SCIENCE PRINCIPLES 2017 SCORING GUIDELINES
Performance Task: Explore
Scoring Notes

Criteria	Response earns point if...	Response does not earn point if:	Additional notes/reminders
Analyzing Impact of Computing Criteria 4: Identifies a beneficial effect AND a harmful effect of the **computing innovation**. Explains how ONE of the identified effects impacts society, economy, or culture. LO: 7.1.1, 7.3.1, 7.4.1 Weighted: 15%	• The response states a beneficial effect that is specifically identified as beneficial. **AND** • The response states a harmful effect that is specifically identified as harmful. **AND** • The response explicitly explains and connects at least ONE of the effects to society, economy or culture in a broad sense (i.e. overall population, not individual).	• The response is missing the adjectives harmful or beneficial (or synonyms thereof.) • The response is missing a valid beneficial effect. • The response is missing a valid harmful effect. • The response is missing an impact on society, economy or culture in the broad sense. • The harm is given as "hacking" and the innovation is not designed to hack. • The impact is related to cost and the result is that people can't afford the innovation, or some will have the innovation and some will not will have the innovation (response must express why this leads to an impact on society, economy or culture as a result.)	• This score should be based solely on the written responses. • The response can include similar words that mean "benefit" and "harmful". • The purpose or function of the computing innovation is not the effect of the innovation. • A single effect can be represented as both beneficial and harmful depending on the group that is impacted. • Students who receive this point will get a point in criteria 3 as well. • "Hacking" can be stated as a valid effect **only if** the computing innovation is a hacking device or is intended for hacking.
Analyzing Data and Information Criteria 5: Identifies the data that the **computing innovation** uses. Explains how that data is consumed, produced, OR transformed. LO: 3.3.1 Weighted: 15%	• The response identifies specific data or information types used by the computing innovation. **AND** • The response explains or describes how the data is processed or used by the computing innovation (i.e. consumed, produced or transformed.)	• The response does not state the fundamental type(s) of the data or simply says "data". • The response does not state clearly how the data is used or processed by the innovation.	• This score should be based solely on the written responses. • Fundamental data types include: integers, numbers, booleans, text, image, video, audio, signals. Types that infer these types like temperature, music, length, pictures, etc. are allowed. • Data collection devices (e.g. sensors, cameras, etc.) are not data.

Copyright © 2017. The College Board.

AP® COMPUTER SCIENCE PRINCIPLES 2017 SCORING GUIDELINES
Performance Task: Explore
Scoring Notes

Criteria	Response earns point if...	Response does not earn point if:	Additional notes/reminders
Analyzing Data and Information Criteria 6: Identifies one storage, privacy, OR security concern. Explains how the concern is related to the **computing innovation**. LO: 3.3.1 Weighted: 15%	● The response explicitly states and justifies a storage, privacy, or security concern. **AND** ● The response explains how the concern is related to the computing innovation.	● The response states a concern that is not related to storage, privacy or security. ● The response does not provide a consequence of the concern to justify that the concern is categorized as storage, privacy or security. ● The response states and justifies a concern but does not identify whether it belongs to storage, privacy and security.	● This score should be based solely on the written responses. ● Hacking is allowable as a security concern here if the response indicates the consequence (to show why it's a security concern) and connects the hacking to the innovation. (It is not enough to say that the security concern is that someone can hack the innovation and do bad things.) ● Cost is allowable as a storage concern if it is justified (the innovation must use very large amounts of memory) and there is a consequence to this requirement. (It is not enough to say that the storage concern is that the innovation requires a huge amount of memory which is expensive.)
Finding and Evaluating Information Criteria 7: Provides citations of at least 3 attributed sources with the written response. The citations must be used to justify the response. LO 7.5.2 Weighted: 10%	● The response includes at least three unique (non-duplicated) in-text citations **AND** at least three corresponding bibliography references.	● The response contains a bibliography only, no in-text citations. ● The response contains less than 3 citations and/or bibliography references. ● the response contains in-text citations that do not clearly link to bibliography references (e.g. numbered citations [1,2,3,etc] but references are not numbered)	● This score should be based solely on the written responses. ● Citations in the artifact (or lack thereof) are not to be considered in scoring. ● Citations may be written as "According to…" or "As written in the New York Times…" as long as the corresponding reference can be located in the bibliography. ● Citation styles can include but are not limited to name, superscript, number system. The type of in-text citations used does not have to be done correctly. Any format works as long as it is clear.

A **computational artifact** without citation or reference for image(s), video, or music used in the creation of the computational artifact is considered plagiarized work and should be returned to the student for correction by the teacher.

Copyright © 2017. The College Board.