

AP Computer Science Principles
Create Performance Task
Scoring Commentaries on 2021 Rubrics
(Applied to Pilot Student Responses)

Sample D (Air Hockey)

4/6 Points

Row 1: 1 pt

The response earned the point for this row, meeting all six criteria:

- The video demonstrates the running of the digital air hockey game, including user input (moving paddles up and down), processing (puck moving based on paddles, score advancing), and output (visible interface of the game and increasing score). This satisfies the first three criteria for the video.
- The response states that the program's purpose "is to provide enjoyable entertainment to solitary players."
- The response describes the program's functionality as shown in the video as, "The input demonstrated is the location of the mouse," and how being on the left or right half of the screen determines which paddle is being controlled.
- The written response describes the input as the "location of the mouse (x coordinate and y coordinate)" and output as the "visible interface of the game."

Row 2: 1 pt

The response earned the point for this row, meeting all three criteria:

- The response includes a program code segment showing how data are stored in the list `scores` based on the location of the puck on the playing interface.
- The response identifies the list as `scores`.
- The response describes the list as follows: "It keeps track of both the score of the left-side player and the score of the right-side player in the first and second indices of the list." Although the list is short, it does fulfill the purpose of the program code segment.

Row 3: 0 pts

The response did not earn the point for this row. The response does not meet either of the two criteria:

- The response includes a program code segment that shows a list, `scores`, being used; however, the list does not manage complexity in the program, as the same result could be accomplished with two variables.
- The response states that, "Without using this list we would have to use variables to hold these and it would be more difficult to increment the score." However, the use of two variables would not make it more difficult to increment the score.

Row 4: 1 pt

The response earned the point for this row, meeting both criteria:

- The response includes a program code segment of a student-developed procedure, `lpy`, which receives the parameter `y`. The response includes a program code segment showing a call to `lpy`.
- The response describes that the procedure's function is to "limit the movement of the left paddle to only when the mouse is on the left side of the screen" by holding "the y intercept of the mouse."

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Row 5: 0 pts

The response did not earn the point for this row. The response met only one of the two criteria:

- The response includes a program code segment of a student-developed algorithm that includes sequencing and selection(if statement); however, it does not include iteration.
- The response explains how the algorithm works in enough detail that someone else could recreate it.

Row 6: 1 pt

The response earned the point for this row, meeting all three of the criteria:

- The response describes two calls to the selected procedure, `lpy`. The first call “is for the mouse’s y position to be less than 40” and the second is “if the mouse’s y coordinate was 50.”
- The response describes the first condition as “when the y position would not meet the requirements for the condition” and the second condition as when “the y position would meet the requirements of the if statement.”
- The response states that the result of the first call “would cause the program to skip over the assignment of the y coordinate of the left paddle to the y coordinate of the mouse, so the paddle wouldn’t move,” and that as the result of the second call, “the y coordinate of the mouse was assigned to the y coordinate of the left paddle, allowing the paddle to move in the indicated direction up or down.”