

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

Sample C (Global Warming)

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 program, including input (user answering questions), functionality (processing of user input), and output (statement and visual “thumbs-up” or “thumbs-down”). This satisfies the first three criteria for the video.
- The response describes the program’s overall purpose as being “to lessen the effects of global warming and to decrease the amount of non recyclable [sic] waste we produce.”
- The response describes the functionality as follows: “displays a random list item from ‘global questions list’.”
- The response describes the input and output as “Once the user reads the question, they answer it using the text box. Depending on the users [sic] input, the program will produce various outputs, which it pulls from ‘global solutions list,’” and, “Also, a thumbs down image is displayed, unless the input indicates they are being good with their emissions. In that case, a thumbs up is displayed and ‘output label’ tells the user they are doing good and to keep it up.”

Row 2: 1 pt

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

- The response includes program code segments for initialization of two named lists, `solution_list` and `question_list`, as well as a code segment showing how the data in both lists are processed as a part of fulfilling the program’s purpose of questioning the user and evaluating responses.
- The response identifies the list to be considered as `question_list`, so this is the list that was used to determine the score.
- The response describes the data in `question_list` to be “questions that the program displays for the user.”

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 procedure, `interpret_response`, shows the list `question_list` being used; however, the value of each index in the list that is being stored in `item` is never used, making the list irrelevant. Instead, the list access and processing have been hard-coded based on list index number and do not manage complexity in the program as written, since the code has not been made easier to maintain and changes to the size of the list would require significant modifications to the code.
- The response states, “The use of the `question_list` manages complexity in my program, because the program would be more complicated if I had to type the question into the if statements.” However, the code only uses lists to replace the question strings in a hard-coded manner, so the use of the list is irrelevant. Additionally, changes to the size of the list (i.e., the number of questions) would necessitate significant modifications to the code.

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Row 4: 1 pt

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

- The response includes a student-developed procedure, `interpret_response`, which has a parameter, `number_of_hours`, that affects the functionality of the procedure. The response provides a code segment showing a call to `interpret_response` from the `Find_Response_button.Click` event.
- The response describes what the procedure does: it “processes the ‘number of hours’ and formulates an output that it will pull from the list ‘solution list’ based on the question and the number of hours,” and it “uses a loop that checks what question is displayed to the user, so it can understand the parameter in the context of what question is being asked.”

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 found in the body of the `interpret_response` procedure. This algorithm appears to include sequencing, selection (if, then), and iteration (for each and do); however, the iteration is trivial, as the value of `item` is never used and the outcome is the same whether this code iterates one time or many times.
- The response explains how the algorithm sequence works using “a loop that checks what question is displayed to the user, so it can understand the parameter in the context of what question is being asked. After analyzing the question that is displayed and the ‘number of hours’, the procedure will pull different strings from a second list, ‘solutions list.... Also, an image property is set” based on the number of hours indicated so that the user receives a string and visual output based on processing of the data input.

Row 6: 1 pt

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

- The response describes two calls to the `interpret_response` procedure. The first call asks, “how many hours their AC was on,” where the “number of hours” parameter is “6.” The second call asks, “the question ... how long the user had spent driving on that day,” where the “number of hours” parameter is “1.”
- The response describes the conditions as “[when to] display to the user that they are using their AC too much” or “when they aren’t emitting too many fossil fuels [sic].”
- The response states that the result of the first call will “display to the user that they are using their AC too much and offer them alternatives,” and that the result of the second call “will display element 4 from ‘solutions list’ that notifies the user that they are doing a good job and that they aren’t emitting too many fossil fuels [sic].”