



AP[®] Computer Science AB 2002 Scoring Commentary

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Question 1

Sample A (Score 9)

This student had a nearly correct solution. In part (a), a half point was lost for comparing the wrong expression against "any".

Sample B (Score 9)

This solution is completely correct.

Sample C (Score 6)

In part (a), this student lost a half point for failing to use the `GetPassenger()` function. The student received two half points in part (b) for the matrix traversal attempt and the attempt to find a block of seats. In part (c), the loop to assign the passengers to seats has the wrong ending condition (it should be; `BlockStart + SeatsNeeded`) and loses the half point for correctness.

Question 2

Sample A (Score 9)

This solution is completely correct. It uses an algorithm where the loop moves the cards until a condition for ending the round occurs, then checks for the winner in different ways after the loop.

Sample B (Score 9)

This solution is completely correct. It uses an algorithm where the conditions for someone winning the cards and ending the round are all checked within the main loop.

Sample C (Score 6)

The student receives complete credit for part (a). In part (b), the student receives credit for attempting the loop but loses the correctness half point because the loop does not stop when unequal cards are drawn. The student gets the half points for correctly using the `dequeue` function and for attempting to compare the cards, but loses the correctness half point for an incorrect comparison abstraction. All credit is awarded for using the `enqueue` function to place cards in the discard pile, to the winner's pile, and for appending the discard pile to the winner of the round. There is no attempt to process the discard pile if either or both of the players run out of cards and so the last four half points are lost.

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Question 3

Sample A (Score 9)

This solution is completely correct.

Sample B (Score 9)

This solution is completely correct. Although the solution is not the standard solution, the student takes advantage of the fact that the Boolean value of the pointer `NULL` is false. This is correctly done in both the conditional and the loop control statements.

Sample C (Score 7)

Part (a) is completely correct. In part (b), both `myFishCreated` and `MyFishCount` are correctly updated. The initial pointer value is correctly obtained from the array `myWorld` and credit is given for this assignment. Both the attempt and correctness half points are awarded for the correct creation of a node of type `ListNode`. No attempt was made to insert the first fish into the list or to insert a fish at the head of the list, thus all three half points were lost for this process. The student inserts the node into the middle of the list correctly, but if the node belongs at the end, the student does not insert correctly. Thus the first half point and the last half point for a middle insertion are given, but the two half points for insertion are both lost.

Question 4

Sample A (Score 9)

This solution is completely correct.

Sample B (Score 6)

Part (a) is completely correct. In part (b), the student attempted a check for `NULL`, but lost the correctness point. An attempted check for a letter was made, but lost the correctness point because the field name was incorrect. The student gained both the attempt and correctness points for making valid calls to traverse the tree. No points were awarded for returning the string that was constructed because the student made no attempt to return any values.

Sample C (Score 6)

In part (a), an attempt was made to check all bits of the code, but the correctness point was lost because of the value 1 being used as the last letter position in the string. Both half points were awarded for the pointer movement, the half point for determining when a letter is lost because the last letter is not processed due to the loop bounds. All additional parts of part (a) are correct. In part (b), not having a `NULL` check loses 1½ points. An additional half point is lost because of the Boolean connector on the return statement.