



AP[®] Computer Science AB 2001 Scoring Commentary

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**AP[®] COMPUTER SCIENCE AB
2001 SCORING COMMENTARY**

Question 1

Sample 1

Excellent solution (Score 9)

This solution is completely correct.

Sample 2

Good solution (Score 6)

Part (a) is correct. In part (b) the student lost ½ point for both the `IsInBounds` check and the use of `myMat` because the `"w."` reference is incorrect. In part (c) the student attempted two nested loops but lost 1 point because they are not correct. The student also lost 1 point because the parameters for the call to `ColorSquare` are incorrect.

Sample 3

Poor solution (Score 3)

The student got 1 point for an attempt in part (a), but the upper bounds in the check are off by one. In part (b) the student got ½ for an attempt at two nested loops, but the bounds are not correct. There is no check for `IsInBounds` inside the loop, which lost 1 point. The assignment of `val` to each element is correct. In part (c) the student used nested loops to attempt to copy the rectangle. However, no nested loops are used for doing the enlargement, so the student received no points on this part.

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Question 2

Sample 1

Excellent solution (Score 9)

This student did a completely correct solution except for not calling `env.Update` in part (c).

Sample 2

Good solution (Score 6)

This student received one point in part (a) for decrementing `myFishCount`. In part (b) this student received 1 point for checking all four directions and 1 point for correctly calling `AddFish`, but failed to check if each position was empty. In part (c) this student lost ½ point because the check for a fish dying was incorrect — `r` was not declared — and ½ point for failing to call `env.Update`; otherwise part (c) is correct.

Sample 3

Poor solution (Score 3)

This student received 1 point in part (a) for decrementing `myFishCount`. In part (b) this student received 1 point for the correct call to `EmptyNeighbors` but lost ½ point usage for a confused identifier (`pos` instead of `myPos`). In part (c) this student received ½ point for an attempt to check if this fish died, ½ point for not allowing a dead fish to breed or move (`else`), and ½ point for an attempt to breed (incorrect syntax).

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Question 3

Sample 1

Excellent solution (Score 9)

This solution is completely correct.

Sample 2

Good solution (Score 6)

In part (a) the student lost $\frac{1}{2}$ point for failing to declare the `apvector` of `apqueues` with length 10; otherwise this part was correct. In part (b) the student again failed to declare the `apvector` with a length — it should be `numVals`. In part (b) there was an attempt to traverse the array of queues, but no clear attempt to traverse each queue, so this student received $\frac{1}{2}$ point from these 2. The student also received $\frac{1}{2}$ point for an attempt to remove an item from a queue and copy to the array and $\frac{1}{2}$ point for returning the array of items. This student had part (c) completely correct.

Sample 3

Poor solution (Score 2)

No points were given for part (a). Part (b) earned the full point for checking all the queues, but no other points. Part (c) received $\frac{1}{2}$ point for looping through the digits correctly and $\frac{1}{2}$ point for an attempt to transfer the items from the array `L` to the queues and back.

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Question 4

Sample 1

Excellent solution (Score 9)

This solution is completely correct.

Sample 2

Good solution (Score 7)

Parts (a) and (b) are correct. On part (c) there was no check for the leaf case, which lost one point, and since no node was reassigned NULL, the final correctness point was lost.

Sample 3

Poor solution (Score 3)

This student received a 3. In part (a) the student did not check the case when `T` is NULL, thus losing $\frac{1}{2}$ point. The student also lost $\frac{1}{2}$ point on usage for leaving out the "*" in the declaration of a pointer. Otherwise this part was correct. In part (b) this student checked the conditions for this node correctly but failed to do any recursive call, and received 1 of the 2 points. On part (c) this student did not check for the leaf case at all, never assigned a new value to `T->val`, and destroyed all nodes visited with `delete T`. The student received $\frac{1}{2}$ point for an attempt at the recursive call and no other points.