

CISS240: Introduction to Programming
Quiz q1704

Name: _____

Score:

This is a closed-book, no C++ compiler, 6-minute quiz.

The following questions relate to bubblesorting the following array of integers:

5 1 8 3 7 9

Q1. How many comparisons are carried out in the first pass? (i.e. how many times the $<$ or \leq or $>$ or \geq comparison was executed in the first pass.)

ANSWER:

Q2. How many swaps are carried out in the first pass?

ANSWER:

Q3. What are the values in the array at the end of the first pass? Write it in this form: {1, 2, 3, 4}. This is not the right answer – it's just to provide a format for the answer.

ANSWER:

Q4. What are the values in the array at the end of the second pass? Write it in this form: {1, 2, 3, 4}. This is not the right answer – it's just to provide a format for the answer.

ANSWER:

The following are the values in a sorted array of integers:

1 3 5 7 8 9

The following are questions related to the binary search algorithm. The index variables are `lower`, `upper`, and `mid`. Of course `lower` is initialized to 0 and `upper` is

initialized to 5 and during the search, the first value assigned to `mid` is 2.

Q5. If the binary search is executed with the aim to find the value 7, during the first iteration, which variable (`lower` or `upper`) is changed?

ANSWER:

Q6. Continuing the above question, what is the new value of the variable that was changed in the above question?

ANSWER:

Q7. Write down all the values of `mid` during the binary search for 1 in the above array. Write it in this form: 1, 2, 3, 4. This is not the right answer – it's just to provide a format for the answer.

ANSWER:

Q8. Write down all the values of `mid` during the binary search for 6 in the above array. Write it in this form: 1, 2, 3, 4. This is not the right answer – it's just to provide a format for the answer.

ANSWER: