

Quiz 7

Deadline	Friday, 31 July 2020 at 11:59PM
Latest Submission	Friday, 31 July 2020 at 11:03AM
Raw Mark	4.00/4.00 (100.00%)
Late Penalty	N/A
Final Mark	4.00/4.00 (100.00%)

Question 1 (1 mark)

Consider the following array of pairs

{ (a,5), (b,4), (c,2), (d,3), (d,2), (a,4), (c,1), (b,3) }

Which of the following shows the result of sorting this array on the first element in each pair using a *stable sort* ?

(a) <input type="radio"/>	{ (a,5), (b,4), (c,2), (d,3), (d,2), (a,4), (c,1), (b,3) }
(b) <input type="radio"/>	{ (a,4), (a,5), (b,3), (b,4), (c,1), (c,2), (d,2), (d,3) }
(c) <input checked="" type="radio"/>	{ (a,5), (a,4), (b,4), (b,3), (c,2), (c,1), (d,3), (d,2) }

(d) <input type="radio"/>	$\{ (c,1), (c,2), (d,2), (b,3), (d,3), (b,4), (a,4), (a,5) \}$
(e) <input type="radio"/>	None of the above resulted from a stable sort

✓ Your response was correct.

Mark: 1.00

Question 2 (1 mark)

Consider the following array, about to be sorted using quicksort

$\{ 3, 2, 5, 9, 7, 8, 1, 6, 4 \}$

Which of these items would be chosen as the pivot if *median-of-three* pivot selection is used?

(a) <input type="radio"/>	3
(b) <input checked="" type="radio"/>	4
(c) <input type="radio"/>	5
(d) <input type="radio"/>	6
(e) <input type="radio"/>	7
(f) <input type="radio"/>	None of the above

✓ Your response was correct.

Mark: 1.00

Question 3 (1 mark)

Consider the following array

{ 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10 }

What would this array look like after the first three scans of the bubble sort algorithm?

(a) <input checked="" type="radio"/>	{ 10, 11, 12, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13 }
(b) <input type="radio"/>	{ 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 }
(c) <input type="radio"/>	{ 10, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11 }
(d) <input type="radio"/>	{ 10, 11, 12, 22, 23, 20, 21, 18, 19, 16, 17, 14, 15, 13 }

✓ Your response was correct.

Mark: 1.00

Question 4 (1 mark)

What would be the result of merging these two arrays

{ 4, 10, 15, 16, 23, 24, 31, 42 }

{ 1, 2, 12, 13, 39 }

(a) <input type="radio"/>	<div>{ 1, 2, 12, 13, 39, 4, 10, 15, 16, 23, 24, 31, 42 }</div>
(b) <input checked="" type="radio"/>	<div>{ 1, 2, 4, 10, 12, 13, 15, 16, 23, 24, 31, 39, 42 }</div>
(c) <input type="radio"/>	<div>{ 42, 39, 31, 24, 23, 16, 15, 13, 12, 10, 4, 2, 1 }</div>
(d) <input type="radio"/>	The arrays cannot be merged because they are different lengths
(e) <input type="radio"/>	None of the above is correct

✓ Your response was correct.

Mark: 1.00