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Bubble Sort - Revision

Number of questions:
3 Questions

Test Date:
Dec 27, 2022

Your Score:
6/6

Question 1/3

How can you improve the best case efficiency in bubble sort? (The input is already sorted)

```
boolean swapped = false;
for(int j=arr.length-1; j>=0 &&
swapped; j--)
{
swapped = true;
for(int k=0; k < j; k++)
{
if(arr[k] > arr[k+1])
{
int temp = arr[k];
arr[k] = arr[k+1];
arr[k+1] = temp;
swapped = false;
}
}
}
```

```
boolean swapped = true;
for(int j=arr.length-1; j>=0 &&
swapped; j--)
{
swapped = false;


for(int k = 0; k < j; k++)
{
if(arr[k] > arr[k+1])
{
int temp = arr[k];
arr[k] = arr[k+1];
arr[k+1] = temp;
}
}
}
```

✓

```
boolean swapped = true;
for(int j=arr.length-1; j>=0
&& swapped; j--)
{
swapped = false;


for(int k = 0; k < j; k++)
{
if(arr[k] > arr[k+1])
{
int temp = arr[k];
arr[k] = arr[k+1];
arr[k+1] = temp;
swapped = true;
}
}
}
```

```
boolean swapped = true;
for(int j=arr.length-1; j>=0 &&
swapped; j--)
{
for(int k= 0; k {
if(arr[k] > arr[k+1])
{
int temp = arr[k];
arr[k] = arr[k+1];
arr[k+1] = temp;
swapped = true;
}
}
}
```

Question 2/3

What is the best case efficiency of bubble sort in the improvised version?

- O(nlogn)
- O(logn)
- O(n) ✓
- O(n^2)

Question 3/3

What is an internal sorting algorithm?

- Algorithm that uses tape or disk during the sort
- Algorithm that uses main memory during the sort ✓
- Algorithm that involves swapping
- Algorithm that are considered ‘in place’