Q. You are given two sorted array, A and B, where A has a large enough buffer at the end to hold B. Write a method to merge B into A in sorted order.

void merge(int A[],int B[],int filled){

int size\_buf = A.length-1;

int size\_b = B.length-1;

while(size\_b >= 0){

if(filled>=0 && A[filled] > B[size\_b] )

{ A[size\_buf] = A[filled]; filled--; }

else

{ A[size\_buf] = B[size\_b]; size\_b--; }

size\_buf--;

}

}

A sorting algorithm is said to be **stable** if two objects with equal keys appear in the same order in sorted output as they appear in the input array to be sorted. Some sorting algorithms are stable by nature like Insertion sort, Merge Sort, Bubble Sort, etc

In internal sorting the data that has to be sorted will be in the main memory always, implying faster access. Complete sorting will happen in main memory. Insertion sort, quick sort, heap sort, radix sort can be used for internal sorting.

In external sorting it will on disks, outside main memory. It can be because the data is huge and cannot be stored in main memory. While sorting the data will pulled over in chunks from disk to main memory. Later all the sorted data will be merged and stored back to disk, where it can fit. External merge sort can be used here.

A person skilled in the technique of performing basic decimal arithmetic, known as algorism. A person skilled in the design of algorithms.

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| --- | --- | --- | --- |
| Algo | Best | Avg | worst |
| bubble | N | N2 | N2 |
| Insertion | N | N2 | N2 |
| Selection | N2 | N2 | N2 |
| Merge | Nlogn | Nlogn | Nlogn |
| Quick | Nlogn | Nlogn | N2 |