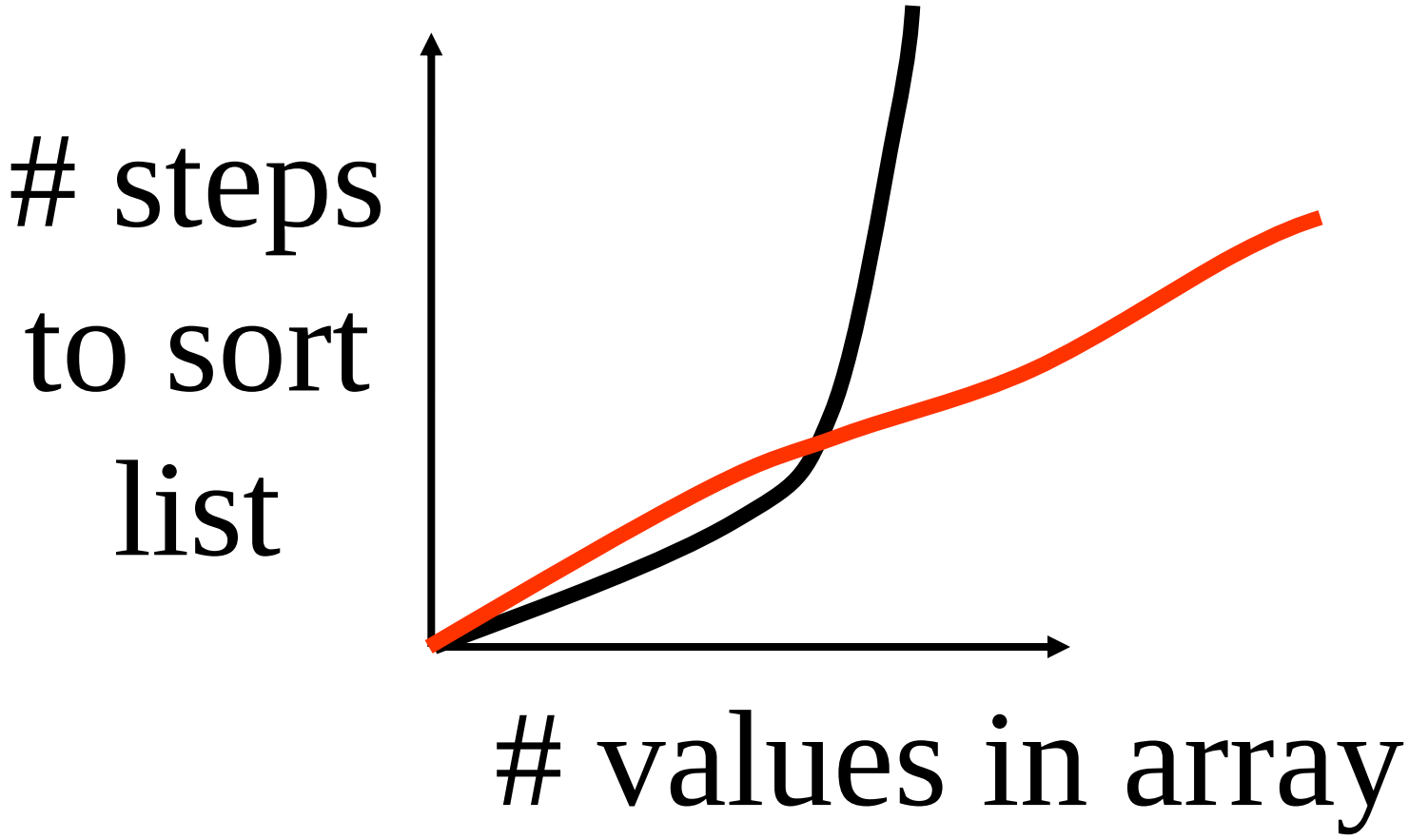
Step Into Java: Merge Sort (again)

Mr. Neat

Java

Quadratic sorting algorithms are nice but...



Merge Sort Pseudo Code

```
void mergeSort(int A[], int first, int last)
{
        // find middle index of A
        // sort the first half of A
        // sort the second half of A
        // merge the first and second halves of A
}
```

Split in Half, split in half,

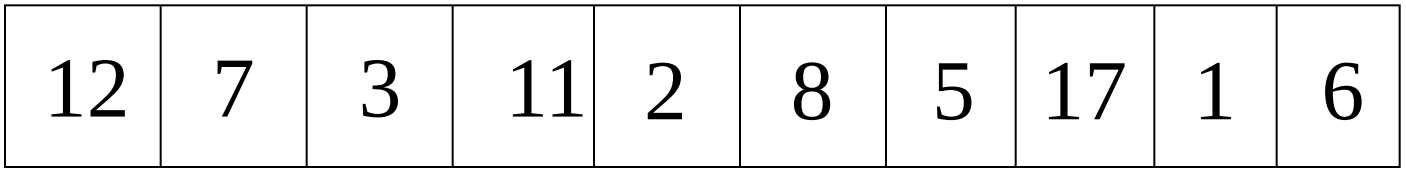
…..

split in half….

Recursive
Merge Sort Pseudo Code

```
void mergeSort(int A[], int first, int last)
{
        if(sublist has only one value)
                do nothing
        else if(sublist has two values)
                sort it if necessary
        else
                find midpoint of current sublist
                call mergeSort and process left sublist
                call mergeSort and process right sublist
                merge left and right sublists
}
```

How About an Example:



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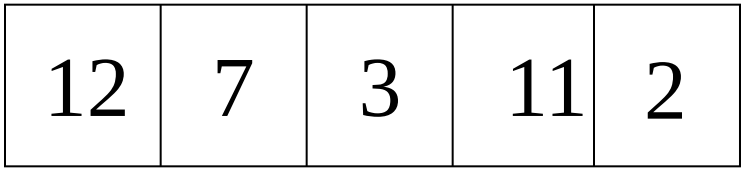

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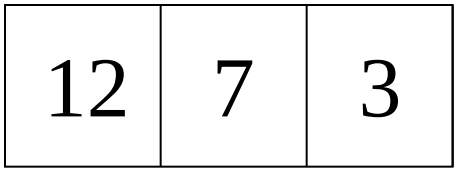

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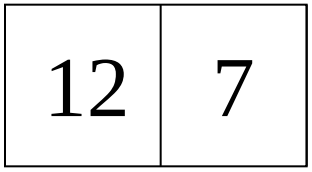
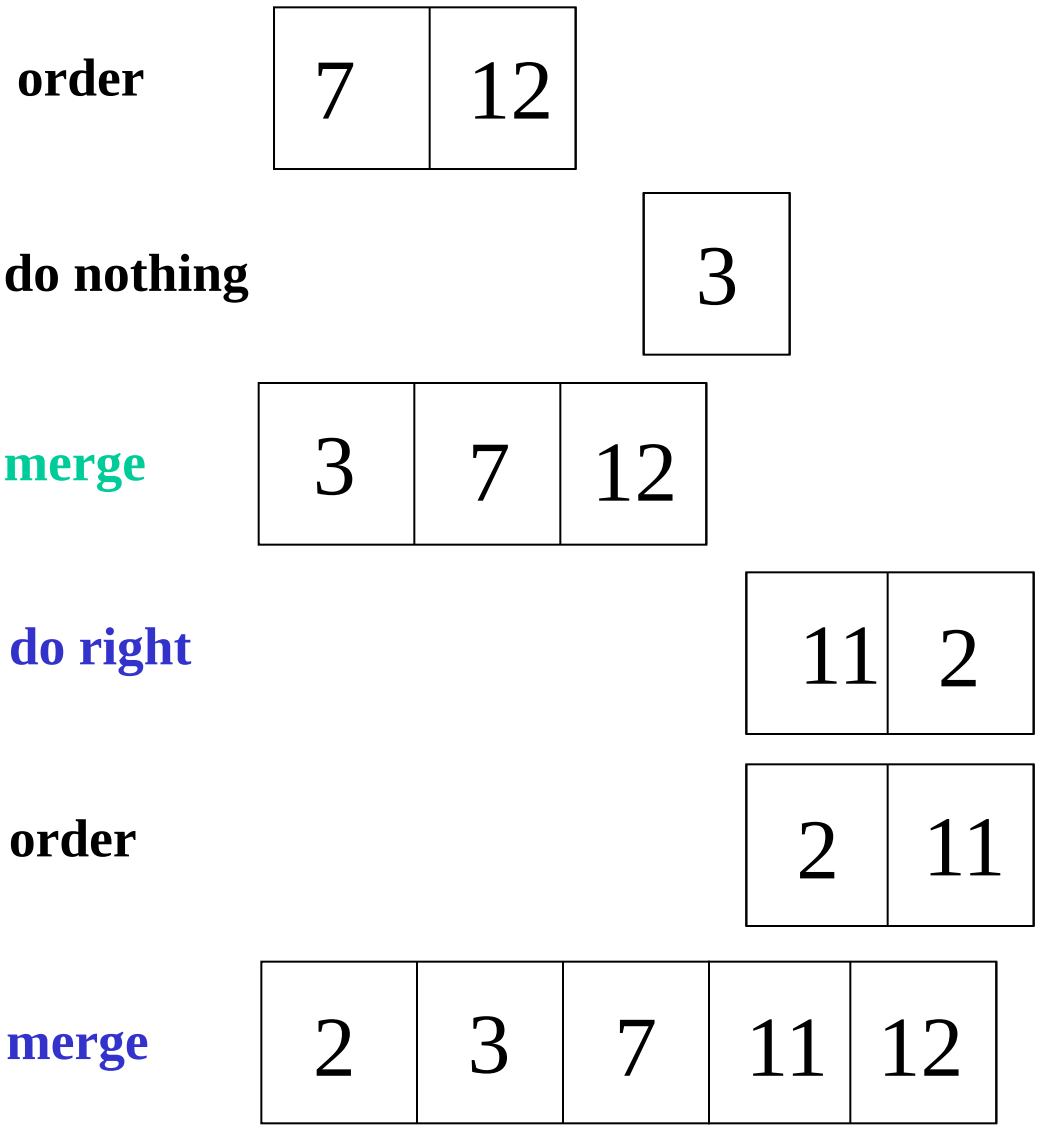
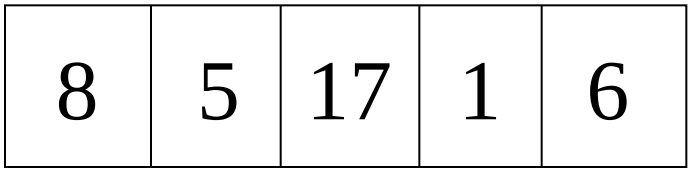


How About an Example:



How About an Example:

do right



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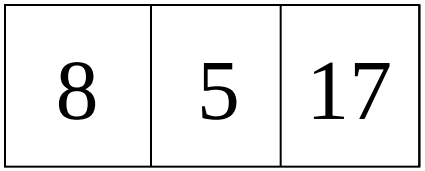

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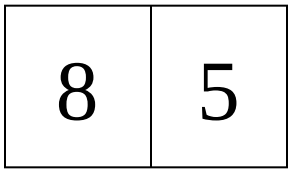
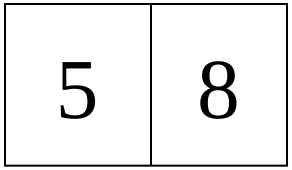
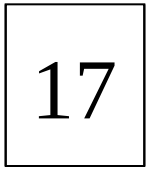


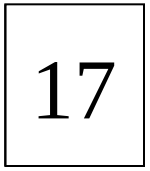
order



do left



do nothing



How About an Example: