

Programming Assignment 4-4

In this assignment, you will use the recursive merge procedure discussed in the slides as part of a recursive procedure `DivideSort`, which sorts the characters in an input `String`, and returns the sorted `String`.

The recursive strategy for `DivideSort`, given a string s of characters is:

1. If s has length 1 or 0, return s
2. Let mid be the middle index of arr and len its length
3. Perform `DivideSort` on the substring from positions 0 to $mid-1$ to obtain sorted string $sleft$.
4. Perform `DivideSort` on the substring from positions mid to $len-1$ to obtain sorted string $sright$.
5. Merge $sleft$ and $sright$ and return the result.

Name your class `DivideSort` and the public sorting method

```
String divideSort(String s)
```

Create a `main` method to test your sorting routine.