

```
import java.util.List;
import java.util.ArrayList;

public class DivideAndConquerSortingMachine {

    public static <T extends DivideAndConquerSort> List<Integer> solve(
        List<Integer> problem, T algorithm) {
        List<List<Integer>> subProblems;
        if (algorithm.isSimple(problem)) {
            return algorithm.simplySolve(problem);
        } else {
            subProblems = algorithm.decompose(problem);
        }
        List<List<Integer>> subSolutions = new ArrayList<List<Integer>>();
        for (int i = 0; i < subProblems.size(); i++) {
            subSolutions.add(i, solve(subProblems.get(i), algorithm));
        }
        return algorithm.combine(problem, subSolutions);
    }
}
```