

```

public static void main(String[] args) {
    // part 1
    List<Integer> elements = new ArrayList<Integer>(5);
    elements.add(10);
    elements.add(100);
    elements.add(1000);
    elements.add(10000);
    elements.add(100000);

    for (int element : elements) {
        double[] array1 = generateRandomArray(element);
        double[] array2 = array1.clone();

        // algorithm #1
        Sorter iSorter = new InsertionSorter();
        iSorter.sort(array1);
        System.out.println("Elements = " + element);
        System.out.println("Insertion Sort Operations: " + iSorter.getOpCount());

        // algorithm #2
        Sorter mSorter = new MergeSorter();
        mSorter.sort(array2);
        System.out.println("Merge Sort Operations: " + mSorter.getOpCount());
        System.out.println();
    }
}

```

| Elements | merge   | Insertion  |
|----------|---------|------------|
| 10       | 20      | 35         |
| 100      | 555     | 2745       |
| 1000     | 8721    | 259137     |
| 10000    | 123705  | 25042495   |
| 100000   | 1566373 | 2503991503 |

