

Mergesort

```
public static void mergesort(int[] list                                ) {
    if(lo >= hi) return;

    // Sort the first half of the list

    // Sort the second half of the list

    // "Merge" the two halves

}

public static void merge(int[] list, int lo, int mid, int hi) {

    int i =                ;

    int j =                ;

    int[] temp = new int[list.length];
    int temp_ctr = lo;

    while(                    ) {

        if(                    ) {

            temp[temp_ctr] = list[j];
            j++;
            temp_ctr++;
        }
        else {
            temp[temp_ctr] = list[i];
            i++;
            temp_ctr++;
        }
    }

    // Copy temp back into the original array
    for(temp_ctr = lo; temp_ctr <= hi; temp_ctr++) {
        list[temp_ctr] = temp[temp_ctr];
    }
}
```