1] Write Programs in Java to sort i) List of integers ii) List of names.

```java
package Practical5;
import java.util.Arrays;
import java.util.Scanner;
        public class MergeSort {
           //  Merge Sort for Strings
           public static void mergeSort(String[] arr, int left, int right) {
              if (left < right) {
                 int mid = (left + right) / 2;
                 mergeSort(arr, left, mid);
                 mergeSort(arr, mid + 1, right);
                 merge(arr, left, mid, right);
              }
           }
           public static void merge(String[] arr, int left, int mid, int right) {
              int n1 = mid - left + 1;
              int n2 = right - mid;
              String[] L = new String[n1];
              String[] R = new String[n2];
              for (int i = 0; i < n1; i++)
                 L[i] = arr[left + i];
              for (int j = 0; j < n2; j++)
                 R[j] = arr[mid + 1 + j];
              int i = 0, j = 0, k = left;
              while (i < n1 && j < n2) {
                 if (L[i].compareTo(R[j]) <= 0) {
                    arr[k++] = L[i++];
                 } else {
                    arr[k++] = R[j++];
                 }
              }
              while (i < n1) {
                 arr[k++] = L[i++];
              }
              while (j < n2) {
                 arr[k++] = R[j++];
              }
           }
           public static void main(String[] args) {
              Scanner sc = new Scanner(System.in);
              // Sorting Integers using Arrays.sort()
              System.out.print("Enter number of integers: ");
              int n = sc.nextInt();
              int[] numbers = new int[n];
              System.out.println("Enter " + n + " integers:");
              for (int i = 0; i < n; i++) {
                 numbers[i] = sc.nextInt();
              }
              Arrays.sort(numbers);
              System.out.println("Sorted integers:");
              for (int num : numbers) {
                 System.out.print(num + " ");
```

```java
        }
        System.out.println("\n");
        //Sorting Strings using Merge Sort
        System.out.print("Enter number of names: ");
        int m = sc.nextInt();
        sc.nextLine(); // consume leftover newline
        String[] names = new String[m];
        System.out.println("Enter " + m + " names:");
        for (int i = 0; i < m; i++) {
            names[i] = sc.nextLine();
        }
        mergeSort(names, 0, m - 1);
        System.out.println("Sorted names:");
        for (String name : names) {
            System.out.println(name);
        }
    }
}
```

```
Enter number of integers: 5
Enter 5 integers:
60 33 10 8 90
Sorted integers:
8 10 33 60 90

Enter number of names: 3
Enter 3 names:
Pradnya
Prachi
Piyush
Sorted names:
Piyush
Prachi
Pradnya
```