

Arraylists – Three questions

Problem 1

Write the following method that returns the sum of all numbers in an ArrayList:

```
public static double sum(ArrayList list)
```

Write a test program that prompts the user to enter five numbers, stores them in an array list, and displays their sum.

Problem 2

Write a method that removes the duplicate elements from an arraylist of integers using the following header:

```
public static void removeDuplicate(ArrayList list)
```

Write a test program that prompts the user to enter 10 integers to a list and displays the distinct integers in their input order and separated by exactly one space.

Here is a sample run:

Enter 10 integers: 34 5 3 5 6 4 33 2 2 4

The distinct integers are 34 5 3 6 4 33 2

Problem 3

Write a method that returns the union of two arraylists of integers using the following header:

```
public static ArrayList union( ArrayList list1, ArrayList list2)
```

For example, the addition of two arraylists { 2 , 3 , 1 , 5 } and { 3 , 4 , 6 } is { 2 , 3 , 1 , 5 , 3 , 4 , 6 }.

Write a test program that prompts the user to enter two lists, each with five integers, and displays their union. The numbers are separated by exactly one space.

Here is a sample run:

Enter five integers for list1: 3 5 45 4 3

Enter five integers for list2: 33 51 5 4 13

The combined list is 3 5 45 4 3 33 51 5 4 13