

Lab Goal: This lab was designed for you to practice using an ArrayList.

Lab Description: Create a method that will receive an integer parameter and then return an ArrayList that contains all of the number's factors, excluding 1 and itself.

Create a 2nd method that will remove all numbers from its ArrayList parameter that are not composite numbers. Composite numbers are divisible by 1, itself, and must have at least one other positive factor. You will need to use % to determine if a number is a factor.

Think through your program carefully. You should use the 1st method to determine which numbers to remove from the ArrayList in the 2nd method!!

File Needed: ArrayListFunHouse.java
ArrayListFunHouseRunner.java

```
public class ArrayListFunHouse
{
    public static ArrayList<Integer> getListOfFactors(int number)
    {
        // you will add code
    }

    public static void keepOnlyCompositeNumbers( List<Integer> nums )
    {
        // you will add code
    }
}
```

Sample Data:

9
23
50
100
762
2 6 8 9 10 12 13 15 17 24 55 66 78 77 79

Sample Output:

[3]
[]
[2, 5, 10, 25]
[2, 4, 5, 10, 20, 25, 50]
[2, 3, 6, 127, 254, 381]

Lab 15a: ArrayList - Factors and Composites

Original List:

[2, 6, 8, 9, 10, 12, 13, 17, 24, 55, 66, 78, 77, 79]

Composite List:

[6, 8, 9, 10, 12, 24, 55, 66, 78, 77]

Things To Turn In: 1.ArrayListFunHouse.java

In Order to Get Full Credit:

1. Write a method to return the ArrayList of factors for a number
2. Write a method to remove the prime numbers from an ArrayList
3. Use the 1st method inside of the 2nd method
4. Use the correct syntax for ArrayList