

- 1) Given a list of Objects, write a method that returns a list of all strings that start with the letter 'a' (lower case) and have exactly 3 letters. TIP: Use Java 8 Lambdas and Streams API's.

```
public List<String> search(List<Person> list) { //new Person(name, age, sex)

    // use filter to remove unqualified elements
    return list.stream().filter(e -> {
        char firstLetter = e.getName().charAt(0);
        int length = e.getName().length();
        if (firstLetter == 'a' && length == 3) {
            return true;
        } return false;
    }).collect(Collectors.toList());
}
```

- 2) Write a method that returns a comma separated string based on a given list of integers. Each element should be preceded by the letter 'e' if the number is even, preceded by the letter 'o' if the number is odd. For example, if the input list is (3,44), the output should be 'o3,e44'.

```
public String getString(List<Integer> list) {

    return list.stream().map(e ->

        e % 2 == 0?

        "e" + String.valueOf(e) : "o" + String.valueOf(e)

    ).collect(Collectors.joining(","));

}
```

- 3) Write a method that returns the average of a list of integers.

```
public Double average(List<Integer> list) {

    return list.stream().mapToDouble( e -> e ).average().orElse(Double.NaN);

}
```

- 4) Write a method that converts all strings in a list to their upper case.

```
public List<String> upperCase(List<String> list) {

    return list.stream().map(e -> e.toUpperCase()).collect(Collectors.toList());

}
```