

Worksheet: Map/Reduce

You are given the following parallel Map/Reduce “framework” for processing a collection of Strings using Java Streams:

```
List<String> list = Arrays.asList("Rice", "Owls", "are", "the", "best");  
var value =  
    list.stream().parallel()  
        .filter(____A____)  
        .map(____B____)  
        .reduce(____C____);
```

Using this framework, solve the following problems by filling in the blanks A, B and C (note that C can be 1, 2 or 3 arguments, depending on which variant of reduce you choose):

1. Find all the strings that contain the letter “s”, convert them all to upper case, and concatenate them
2. Find the total length of all the strings that start with a lowercase letter



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1. Find all the strings that contain the letter “s”, convert them all to upper case, and concatenate them

```
List<String> list = Arrays.asList("Rice", "Owls", "are", "the", "best");  
var value =  
    list.stream().parallel()  
        .filter(e -> e.contains("s"))  
        .map(e -> e.toUpperCase())  
        .reduce("", String::concat, String::concat);
```

“OWLSBEST”



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3. Find the total length of all the strings that start with a lowercase letter

```
List<String> list = Arrays.asList("Rice", "Owls", "are", "the", "best");  
var value =  
    list.stream().parallel()  
        .filter(e -> e.charAt(0) >= 'a' && e.charAt(0) <= 'z')  
        .map(String::length)  
        .reduce(0, Integer::sum);
```

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