EX13. filterEmpty (20 points)

Use the ForkJoin framework to write the following method in Java:

```
public static int[] filterEmpty(String[] arr)

Returns an array with the lengths of the non-empty strings from arr (in order).

For example, if arr is ["", ",", "cse", "332", ",", "hw", ",", ",", "7", "rox"], then
filterEmpty(arr) == [3, 3, 2, 1, 3].
```

A parallel algorithm to solve this problem in $O(\log n)$ span and $O(n)$ work is the following:

1. Do a parallel map to produce a bit set
2. Do a parallel prefix over the bit set
3. Do a parallel map to produce the output

In lecture, we wrote parallelPrefix together, and it is included in the gitlab repository. Rather than re-implementing that piece yourself, you should just use it. For the other two parts though, you should write them. Do not bother with a sequential cutoff for this exercise, just have a base case that processes a single element.