

CSE 332: Data Structures and Parallelism

Exercises (Parallelism)

Directions: Submit your solutions using *gitlab*. You must fill out the partners form for *para* to get access to your repository. Choosing a partner is disabled, because these exercises are solo.

EX13. `getLongestSequence` (20 points)

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

```
public static int getLongestSequence(int val, int[] arr, int sequentialCutoff)
```

Returns the length of the longest *consecutive* sequence of `val` in `arr`.

For example, if `arr` is `[2, 17, 17, 8, 17, 17, 17, 0, 17, 1]`, then

`getLongestSequence(17, arr) == 3` and `getLongestSequence(35, arr) == 0`.

Your code must have $\mathcal{O}(n)$ work, $\mathcal{O}(\lg n)$ span, where n is the length of `arr`, and actually use the `sequentialCutoff` argument. We have provided you with an extra class `SequenceRange`. We recommend you use this class as your return value, but this is not required.