

Queues

<http://bit.ly/VTProgTeamQueues>

What are queues?

Queues are a data structure used for scheduling purposes.

- FIFO - First in first out
- Priority based

java.util.Queue

- `add(obj)/offer(obj)` - Add an object to the queue
- `remove()/poll()` - Remove the next object in the queue
- `element()/peek()` - Look at the next element in the queue
- Using an `ArrayDeque` is recommended

java.util.PriorityQueue

- Uses an object's compareTo method to sort
- Stores elements in a Min-Heap
- Allows for logarithmic time removal and insertion
- Perfect for more complicated scheduling algorithms

When to use?

- As said before, queues are perfect for scheduling problems.
- This can be people, a set of tasks, the order to explore a graph, etc.

Sample Problems

Problem A template: <https://spruett.me/blog/static/code/UniqueUserTemplate.java.html>

Problem B template: <https://spruett.me/blog/static/code/ElectionsTemplate.java.html>

Problem C template: <https://spruett.me/blog/static/code/MessageSchedulingTemplate.java.html>