Key Questions

1. **How many elevators** do we have, i.e. do we need to consider an elevator bank?
    1. If only one elevator, just one elevator
    2. Else, we will have List<Elevator> elevators = new ArrayList<>();
2. Do we need to consider the **capacity/the weight limit** of an elevator?
   It should be fine, if we need to consider this, we just need to add **checkCapacity()** or and add **alarm()** methods in our elevator instance

Other Questions - The other questions I encountered while went through online, but I think probably it is not necessary and minor

1. What is the **min floor and max floor** of the elevator that can move? (maybe because sometimes some levels are not reachable for some reason, like maintenance, or top-secrets floor, employee only)

First we will Create a **Elevator** class which is our core class

We will maintain some of the **default values** for our Elevator Class like

```
public class Defaults {
	private static final int MIN_FLOOR = 1;
	private static final int MAX_FLOOR = 20;
	private static final int MAX_LOAD = 2000;
}
```

Next we will add **State Enums** like

```
private enum State {
	MAINTENANCE, STAND, UP, DOWN
}
```

Now we will initialize some of the variables required for the elevator class like

```
private int minFloor = Defaults.MIN_FLOOR;
private int maxFloor = Defaults.MAX_FLOOR;
private int floor = minFloor;
private int load = 0;
private int maxLoad = Defaults.MAX_LOAD;
private State state = State.STAND;
private boolean isDoorOpen = false;
private String id = null;
private Queue<Integer> upHeap = new PriorityQueue<>(maxFloor);
private Queue<Integer> downHeap = new PriorityQueue<>(maxFloor, Collections.reverseOrder());
```

Now we will create some of the constructors for the Elevator class

```
private Elevator(String id, int maxFloor, int minFloor, int maxLoad) {
      this(id, maxFloor, minFloor);
      maxLoad(maxLoad);
}

private Elevator(String id, int maxFloor, int minFloor) {
      this(id, maxFloor);
      minFloor(minFloor);
      floor(minFloor);
}

private Elevator(String id, int maxFloor) {
      id(id);
      maxFloor(maxFloor);
}
```