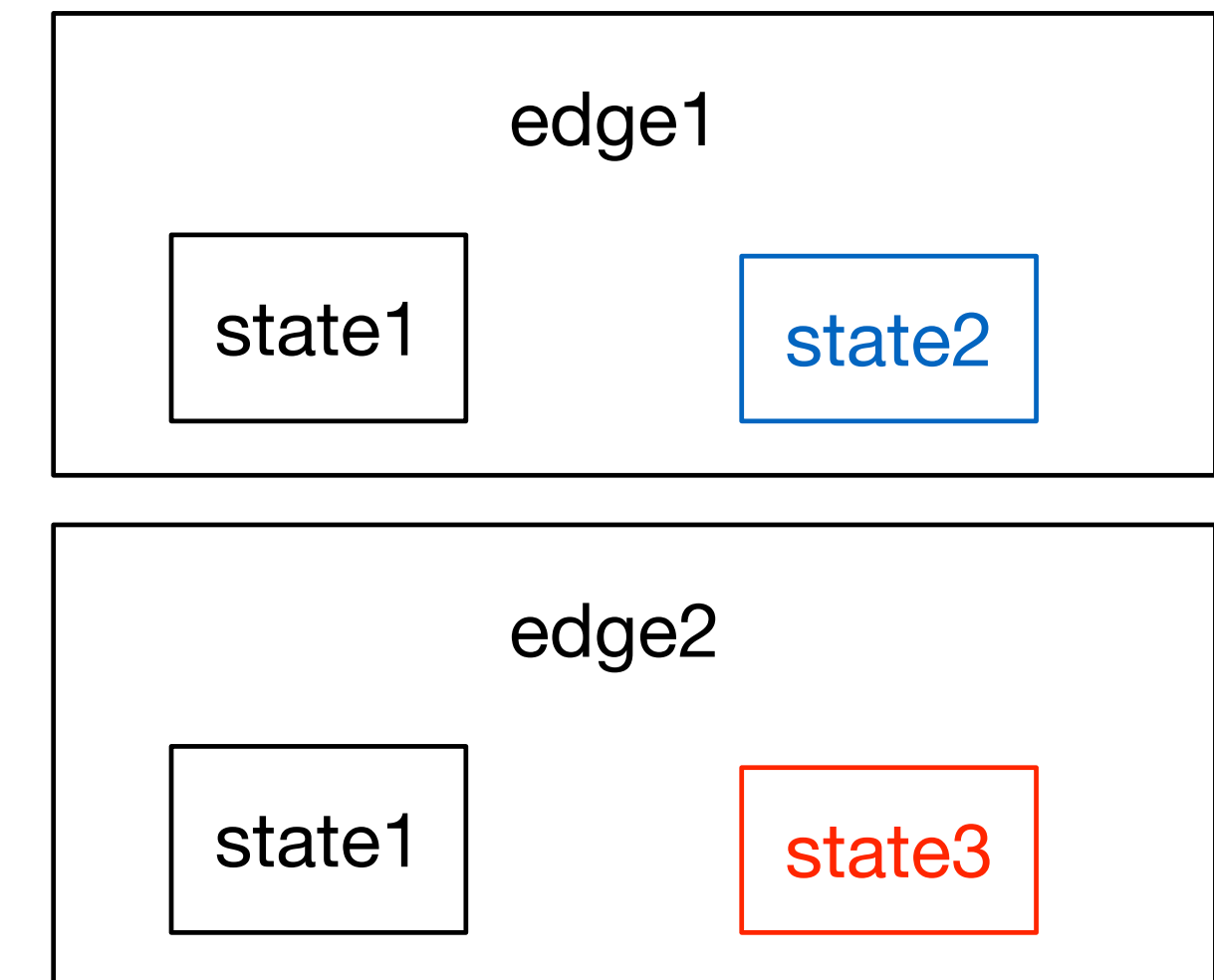
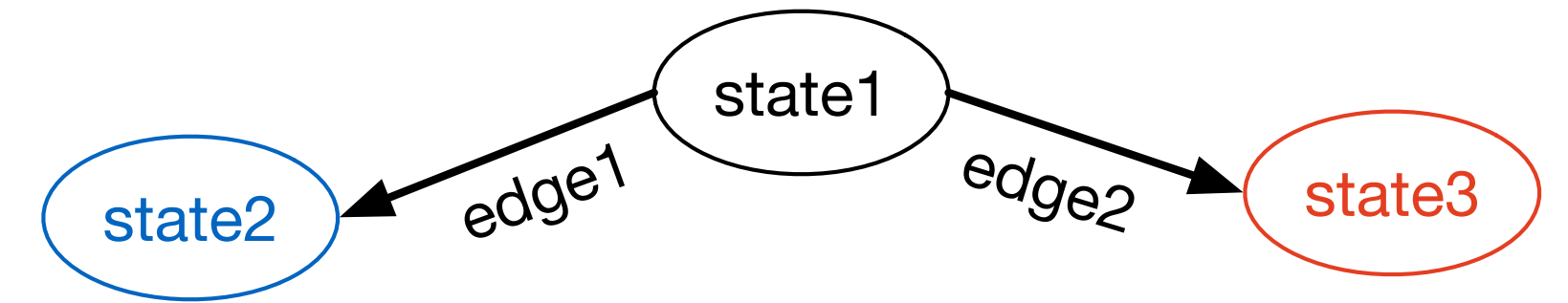


# Serialization is hard

- Duplication of data: if you have a hierarchical structure, how can you avoid saving duplicate objects?
  - Store as reference; requires unique ID!
- When you recreate an object, how “equal” to the old object is it?
  - Does it satisfy `new == old`?
  - What about `container.new is container.old`?
- If you create equivalent (not same in memory), do you save duplicates?



# Testing serialization is hard

- If you use a registry for deduplication, don't forget to have a test where you clear the registry!
- Class-based grouping of tests are useful here, with a mix-in for serialization testing
- Beware of things that are conceptually equal but don't test that way: NaN!