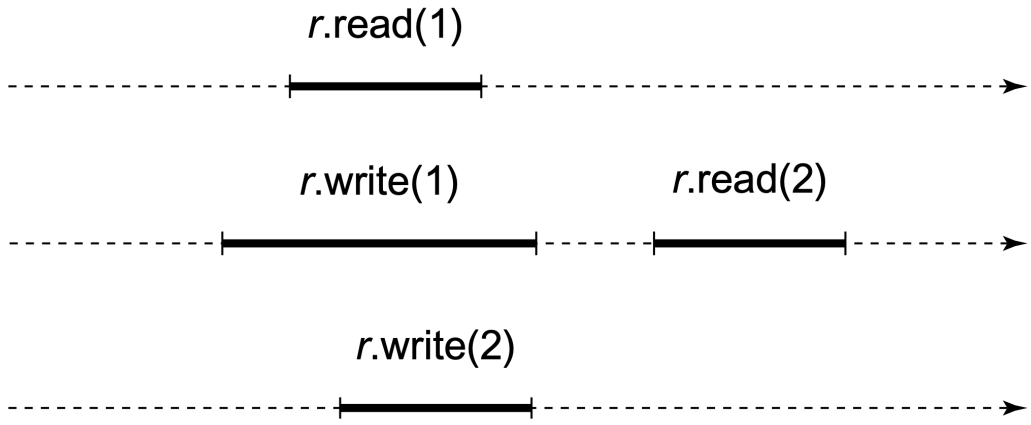
Theory & Practice of Concurrent Programming (COMP60007)
Theory Tutorial 4: Concurrent Objects

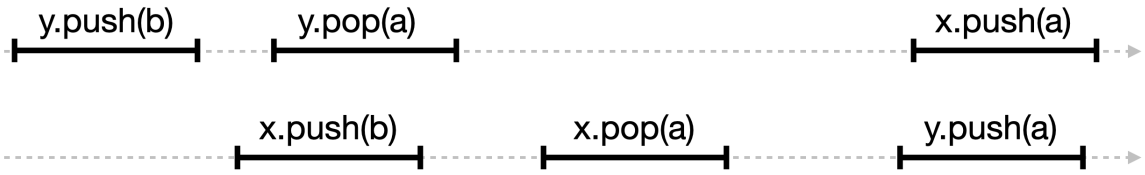
1. Can you think of an example history that is sequentially consistent but not linearisable? If so then give such a history; otherwise, explain why not.

2. Can you think of an example history that is linearisable but not sequentially consistent? If so then give such a history; otherwise, explain why not.

3. In the following history H, `r` is a memory location object. Is H (a) linearisable? (b) sequentially consistent? Justify your answers formally.



4. In the following history H, `x` and `y` are stack objects. Is H (a) linearisable? (b) sequentially consistent?



5. In the following history H, `x` and `y` are memory location objects. Is H (a) linearisable? (b) sequentially consistent?