States

Unlock: should send no signals and only on a read or write form either cache it should go to lock

Lock: should set mdrmux\_sel to 0 if icache\_read == 1, mdrmux\_sel to 1 if dcache\_read == 1, mdrmux\_sel=2 if either icache\_write == 1 or dcache\_read == 1.

Modules

Decode: should set output 0 or 1 equal to the input based on the select bit

Decider: output a 0 if icache\_write or icache\_read equal 1 it should be set to 1 if dcache\_write or Dcache\_read equals 1 and icache\_write or icache\_read equals 0.