```
val io = new Bundle {
  val a = Bits(INPUT, 1)
                                               sel
  val b = Bits(INPUT, 1)
                                  Bits
                                        Bits
                                               Bits
                                                           Bits
                                                     Bits
  val c = Bits(INPUT, 1)
  val d = Bits(INPUT, 2)
  val sel = Bits(INPUT, 2)
                                        mux2
                                                    mux2
  val out = Bits(OUTPUT, 1)
                                              mux2
val m1 = new mux2
                                 ımux4
                                               Bits
val m2 = new mux2
                                               out
val m3 = new mux2
// connect the muxes...
```

class mux4 extends Component {