int nr = 0,  ## RW: (nr == 0 or nw == 0) and nw <= 1
    nw = 0;
sem e = 1,  # controls entry to critical sections
    r = 0,  # used to delay readers
    w = 0;  # used to delay writers
    # at all times 0 <= (e+r+w) <= 1
int dr = 0,  # number of delayed readers
    dw = 0;  # number of delayed writers

process Reader[i = 1 to M] {
    while (true) {
        # (await (nw == 0) nr = nr+1;
        P(e);
        if (nw > 0) { dr = dr+1; V(e); P(r); }  # see text for details
        nr = nr+1;
        SIGNAL;
        read the database;
        # (nr = nr-1;
        P(e);
        nr = nr-1;
        SIGNAL;
    }
}

process Writer[j = 1 to N] {
    while (true) {
        # (await (nr == 0 and nw == 0) nw = nw+1;
        P(e);
        if (nr > 0 or nw > 0) { dw = dw+1; V(e); P(w); }  # see text for details
        nw = nw+1;
        SIGNAL;
        write the database;
        # (nw = nw-1;
        P(e);
        nw = nw-1;
        SIGNAL;
    }
}

Figure 4.12  Outline of readers and writers with passing the baton.