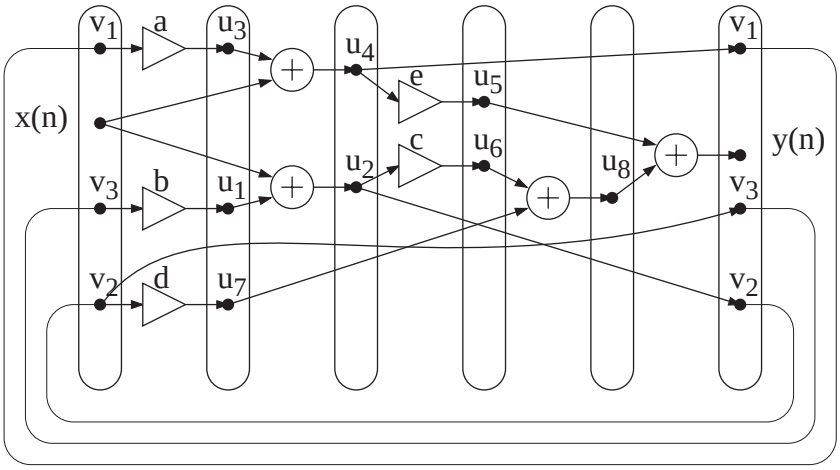
7.23 a) $T_{min} = max\left\{\frac{T_{op_i}}{N_i}\right\} = max\{\frac{3+1}{1}, \frac{7+1}{2}\} = 4$ clock cycles

b) The precedence graph is shown below:



c) Since the critical loop requires 8 clock cycles which is larger than the sampling period, we have to schedule the computation in two sampling periods. The minimal number of PEs is $N_{PE} = \left\lceil \frac{\sum_i N_i T_{op_i}}{2T_{sample}} \right\rceil = \left\lceil \frac{(3\times 3 + 2\times 7 + 4\times 1)\times 2}{2\times 5} \right\rceil = \lceil 5.4 \rceil = 6$.

d)