Exercises

1. Find the smallest values for S,R,S',R',S'',R'' in the CB implem. below for arbitrary link failures ($f_l^r = f_l^{ra}$ and $f_l^s = f_l^{sa}$):

if got $(init,p_s,m_s)$ from p_s
→ send $(echo,p_s,m_s)$ to all [once]
if got $(echo,p_s,m_s)$ from $Sf_l^{sa} + Rf_l^{ra} + f + 1$
→ send $(echo,p_s,m_s)$ to all [once]
if got $(echo,p_s,m_s)$ from $S'f_l^{sa} + R'f_l^{ra} + 2f + 1$
→ call **accept**(p_s,m_s)

Required number of procs:

- $n \geq S''f_l^{sa} + R''f_l^{ra} + 3f + 1$

Recall lower bound:

- $n \geq f_l^r + f_l^{ra} + f_l^s + f_l^{sa} + 3f + 1$

2. Find an „easy impossibility proof" that shows that n=4 processors are not enough for solving consensus with $f_l^r = f_l^{ra} = f_l^s = f_l^{sa} = 1$ (and f=0)