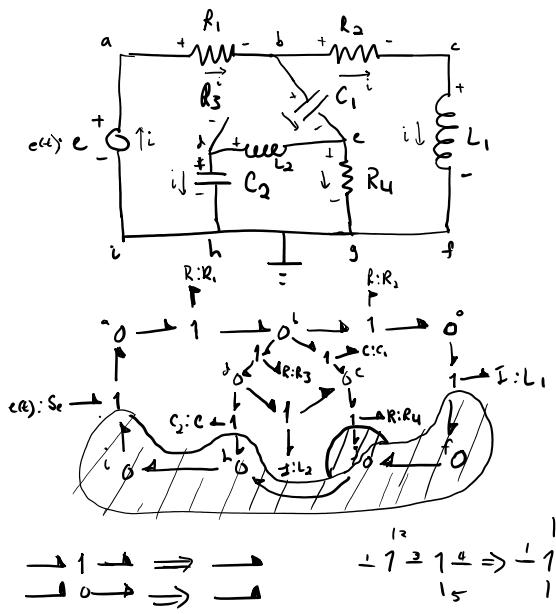
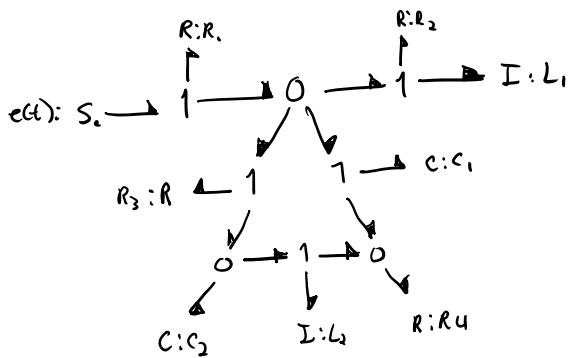


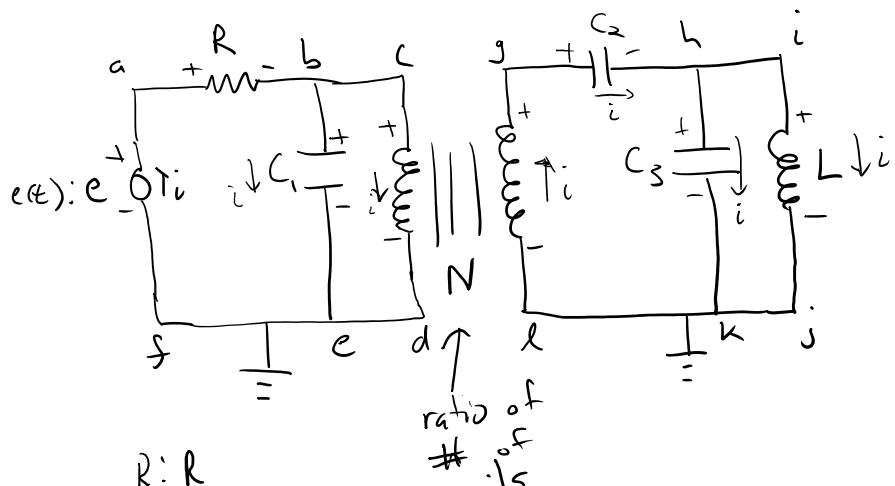
Electrical Ex. #2



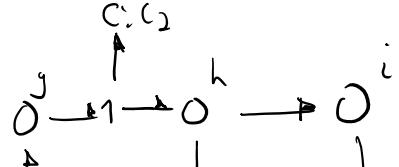
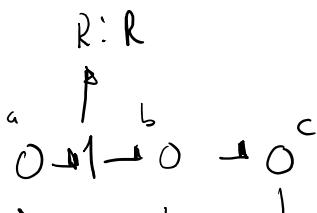
$$\frac{1}{R_1} = \frac{1}{R_2} \Rightarrow \frac{1^2}{1^2} = \frac{1^4}{1^4}$$

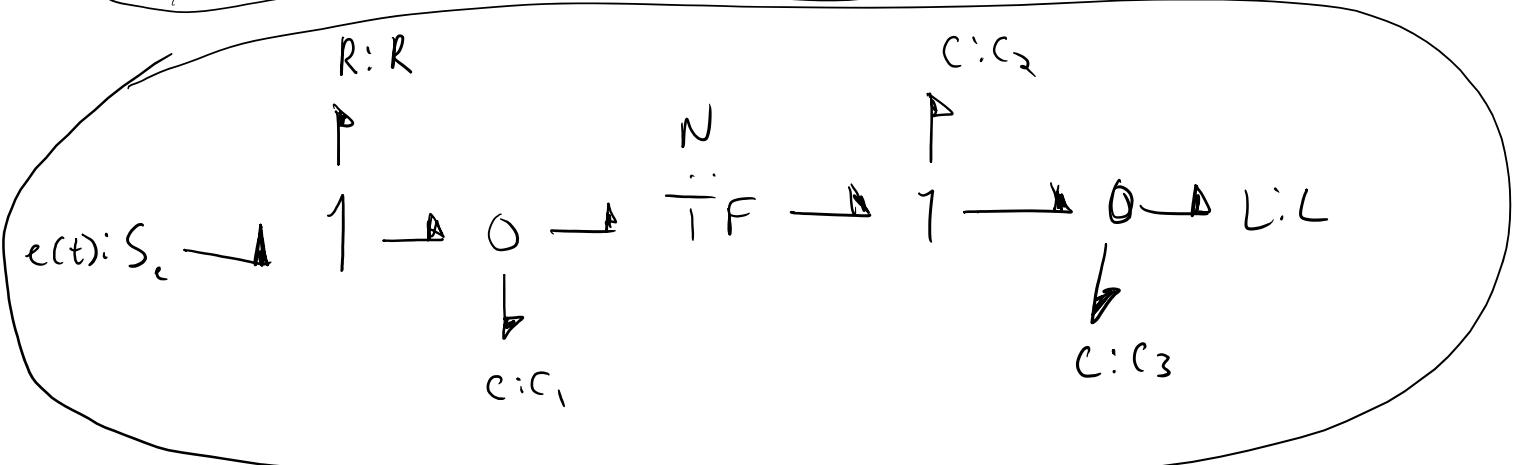
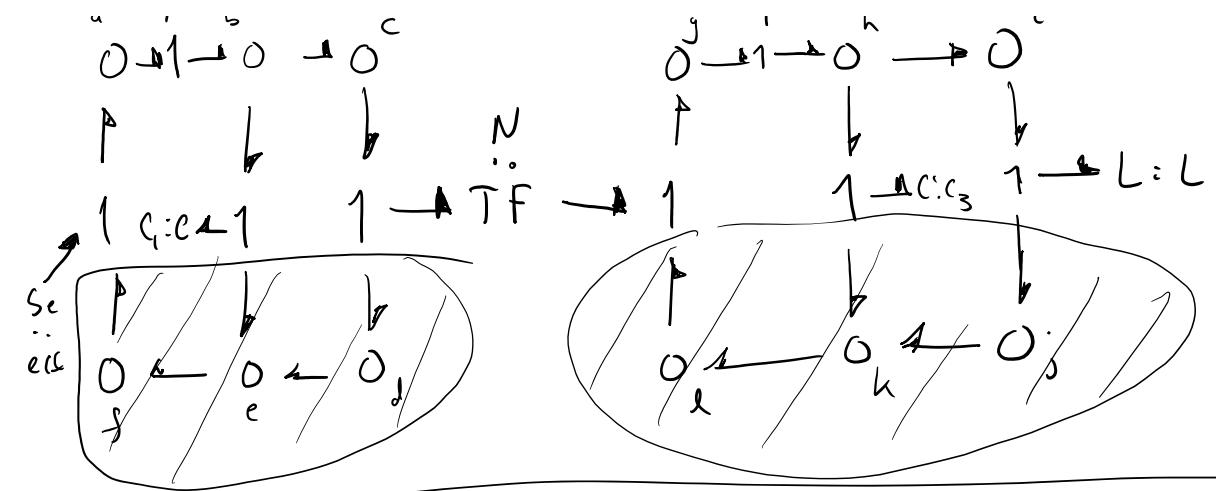


Exercise Network

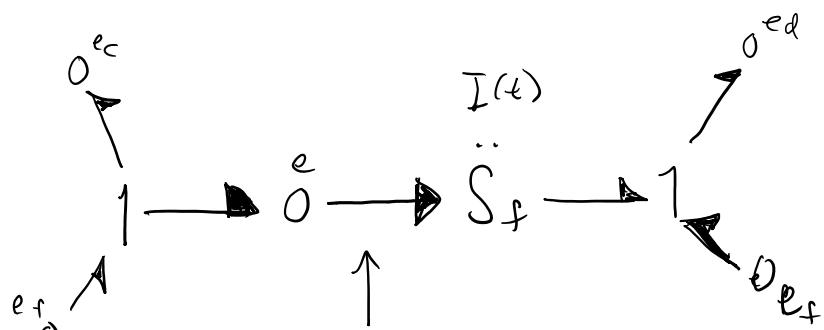
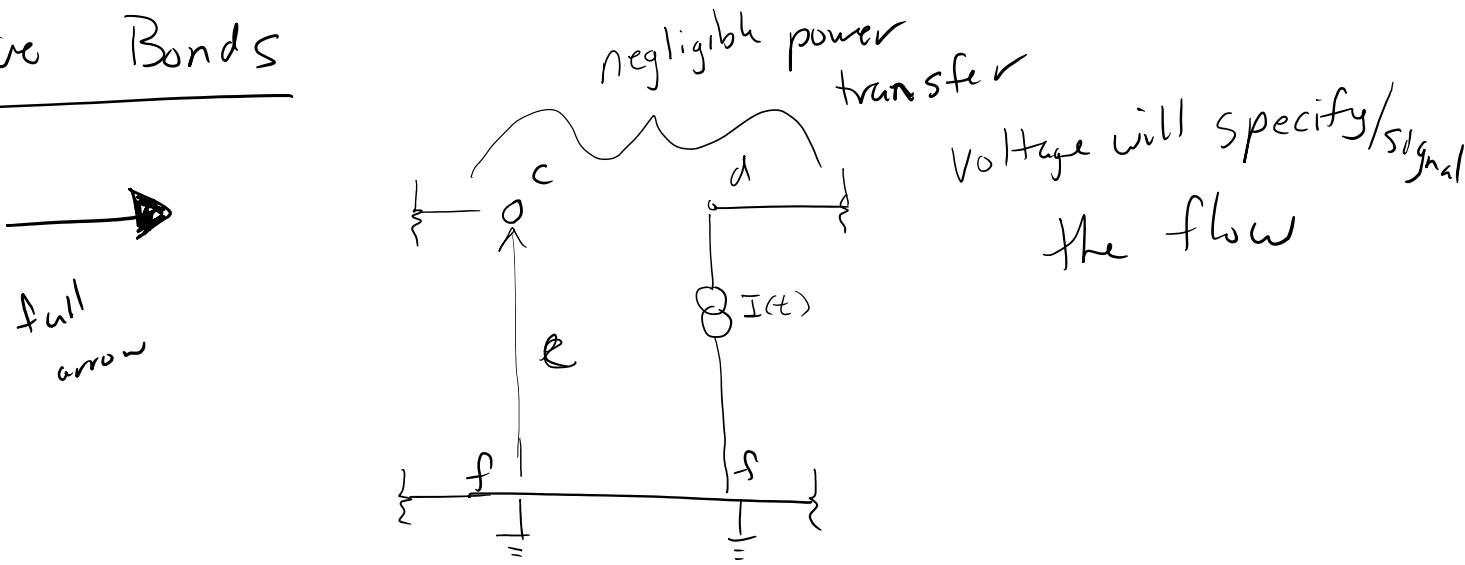


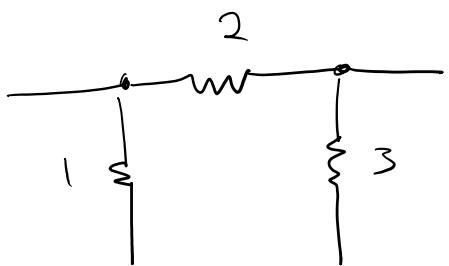
ratio of
coils



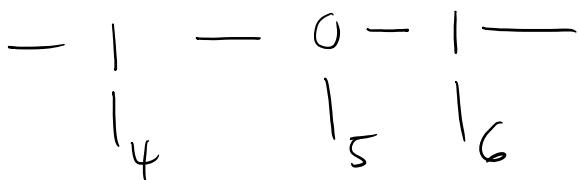
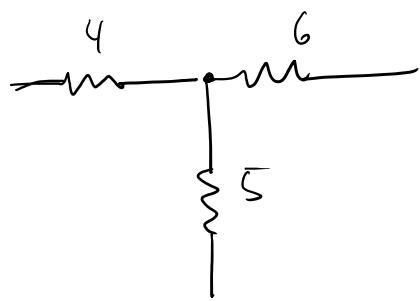
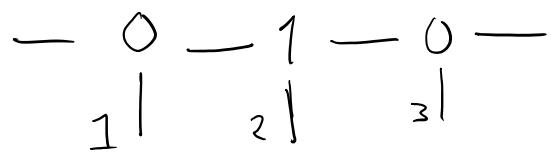


Active Bonds





O
active
bond



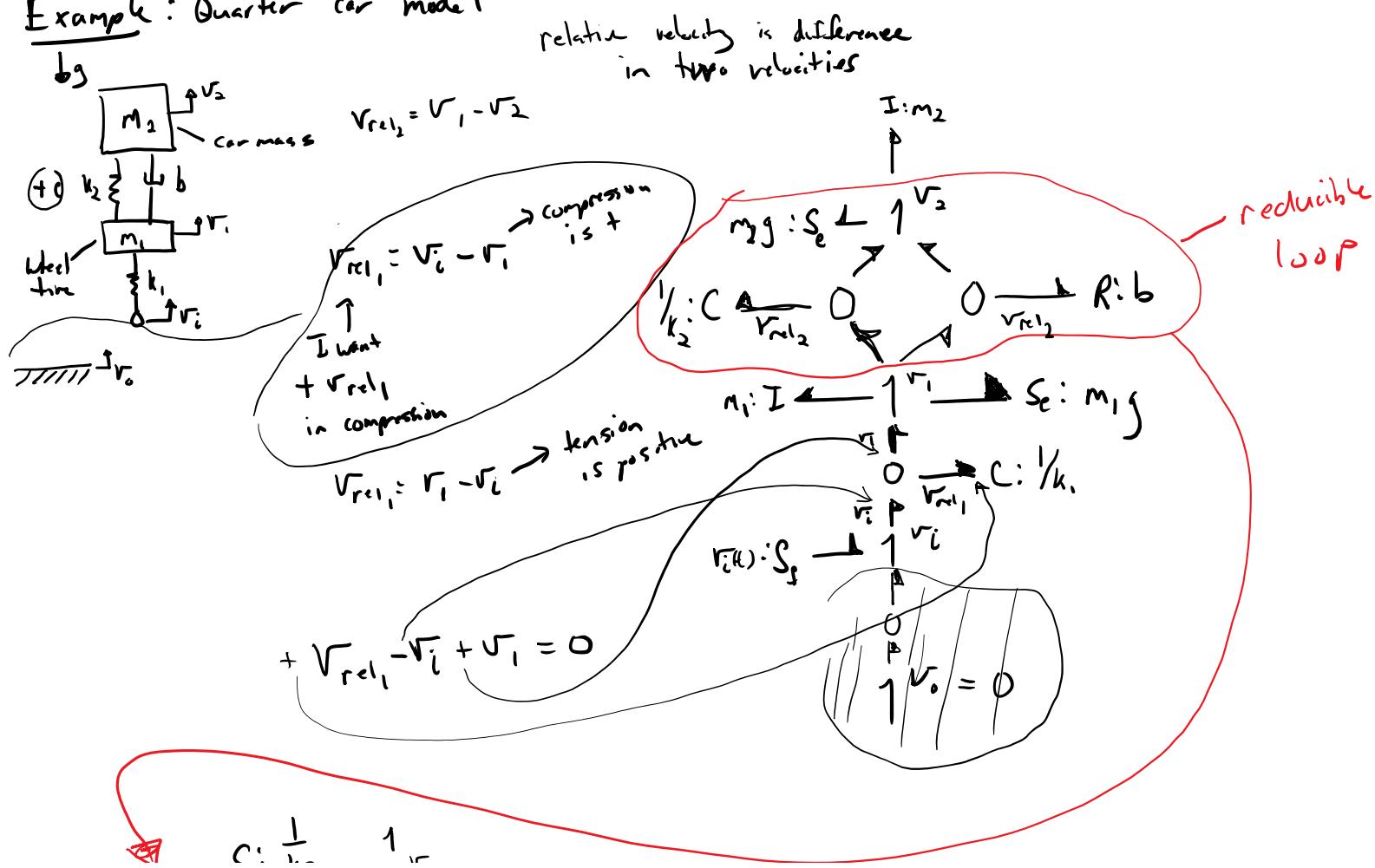
Mechanical System

masses, springs, dampers, levers, flywheels, gears, shafts, etc

Steps

1. Create a schematic and specify positive absolute directions of velocities and whether tension or compression is positive for each relative velocity.
2. Use 1-junctions to represent all velocities.
3. Attach to each 1-junction any element that relates to the absolute velocity (I , C , R , S_e , S_g , etc)
4. Use 0-junctions to establish relative velocities.
5. Eliminate bonds with zero velocity and simplify.

Example: Quarter car model



$$C: \frac{1}{1-k_1} \rightarrow v_{rel,1}$$

