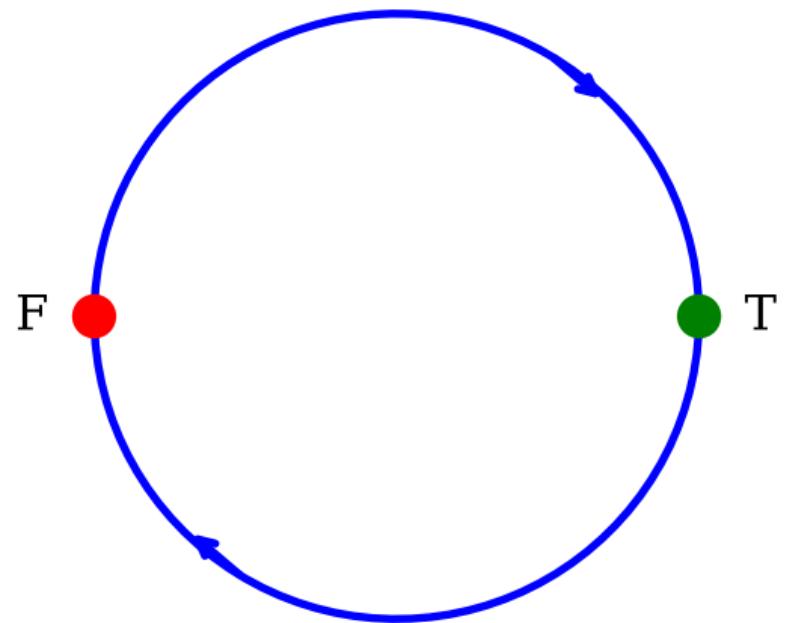
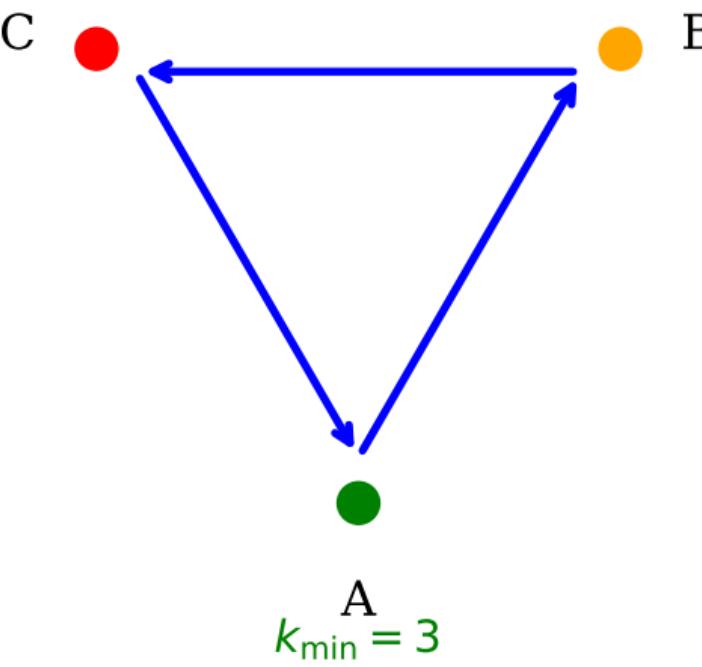


(A) 2-cycle (Liar paradox)



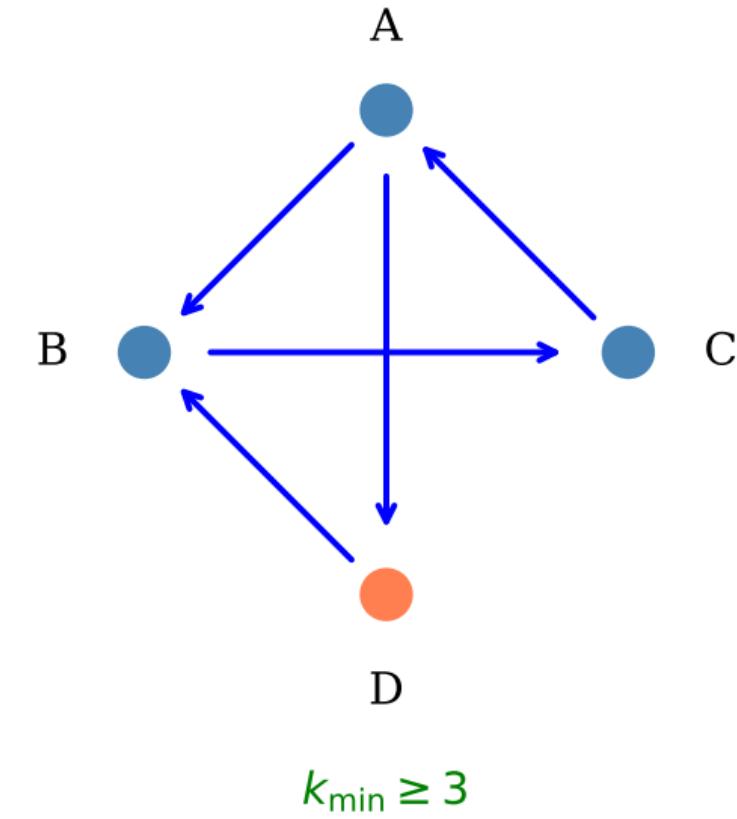
$$k_{\min} = 3$$

(B) 3-cycle



$$k_{\min} = 3$$

(C) Nested cycles



$$k_{\min} \geq 3$$