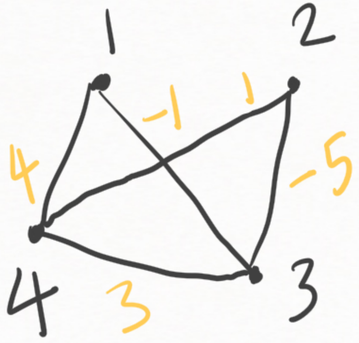


negative weighted cycle

$2 \to 3 \to 4 \to 2$ tot weight $= -1$

$1 \to 3 \to 2 = -6$

$1 \to 3 \to 2 \to 4 \to 3 \to 2 = -7$

weight $= -6$

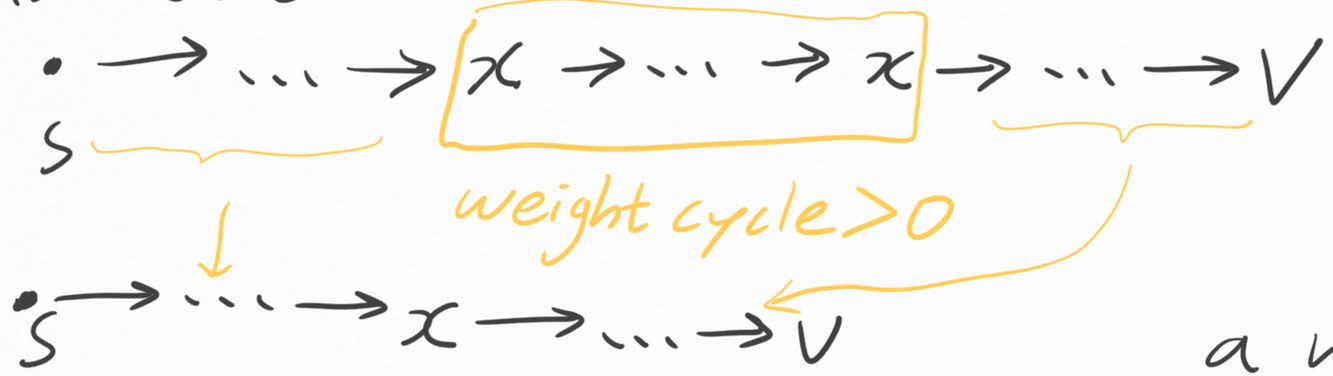
negative weighted cycle $= -1$

$1 \to 3 \to 2 \to 4 \to 3 \to 2 \to 4 \to 3 \to 2 = -8$

copy 1 of cycle

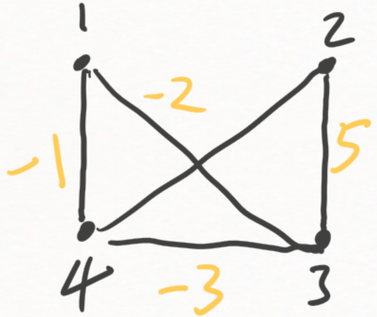
copy 2 of cycle

since assumed g has no negative weighted cycle



shortest walk from s to v

a walk of less weight



$1 \to 3 \to 4 \to 1 \to 4 \to 2$ (-2, 6, -1, -1, -3)

cycle wei = 3

tot wei = -1

$1 \to 4 \to 2$ (-1, -3)

if remove cycle, tot wei = -4