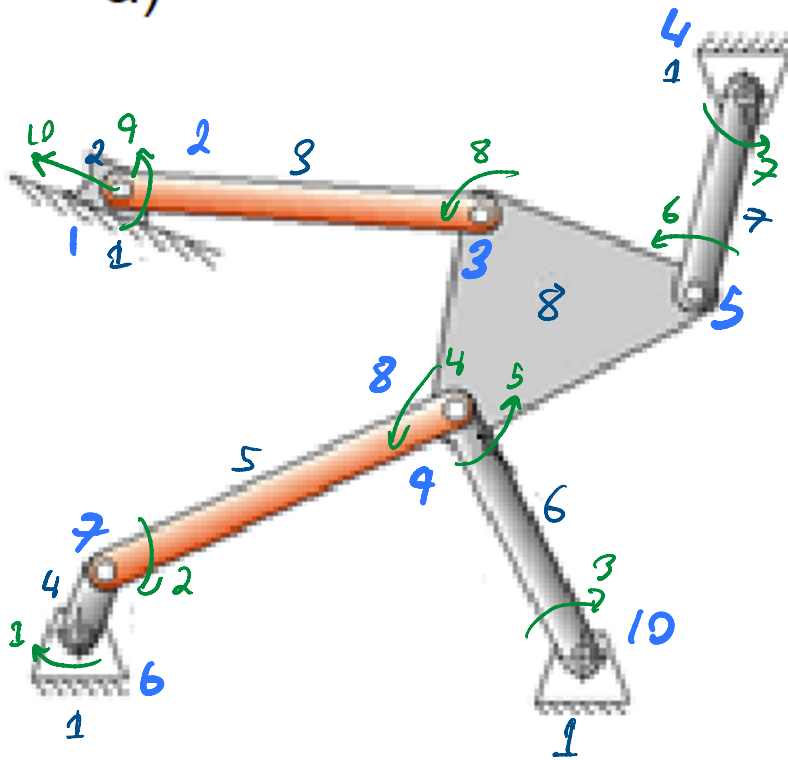


# Assignment 5

March 30, 2023 3:45 PM

1)

a)



$$g = \# \text{ joints} = 10$$

$$n = \# \text{ links} = 8$$

$$f = \text{d.o.f.} = 10$$

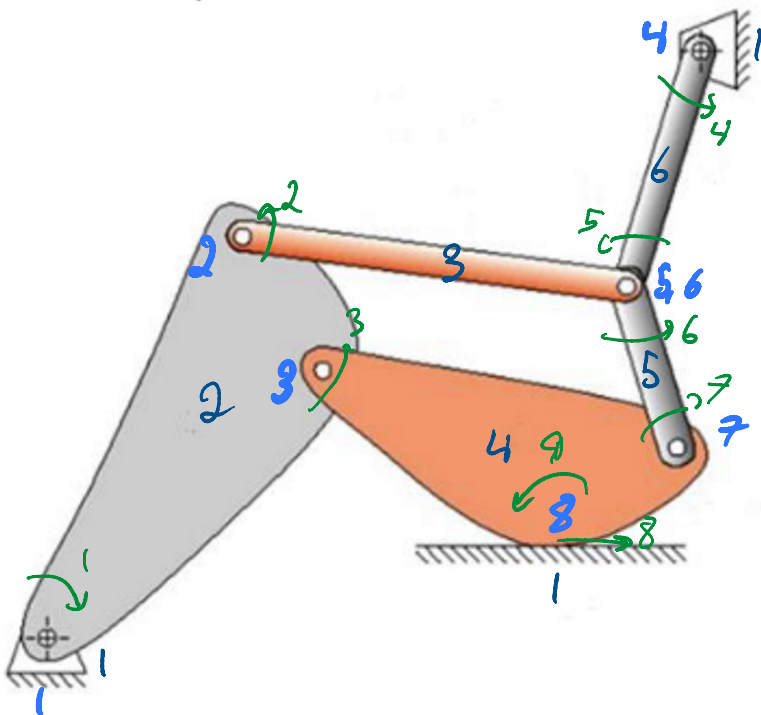
$$m = 3(n - g - 1) + \sum P_i$$

$$= 3(8 - 10 - 1) + 10$$

$$= 1$$

$\therefore m \geq 1 \therefore \text{linkage}$

b)



$$g = 8$$

$$n = 6$$

$$f = 9$$

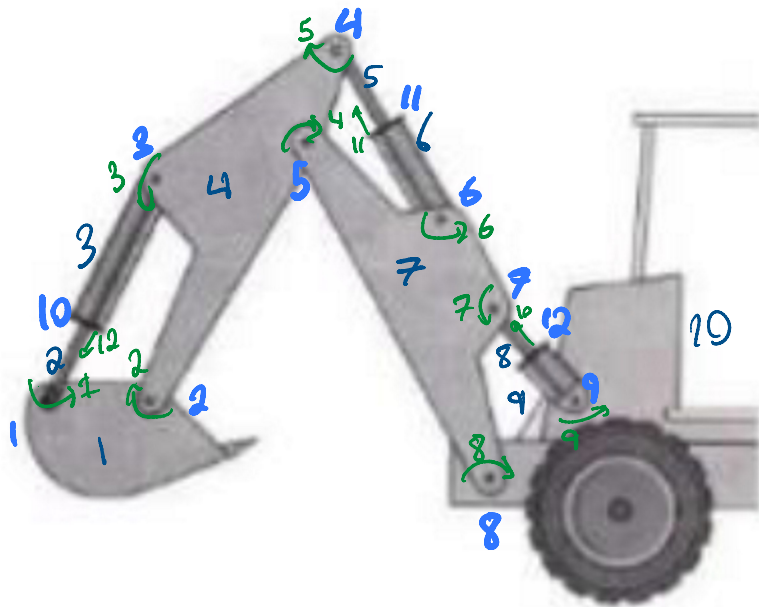
$$m = 3(6 - 8 - 1) + 9$$

$$= 0$$

$\therefore m = 0 \therefore \text{structure}$

c) (treat vehicle as ground)

c) (treat vehicle as ground)

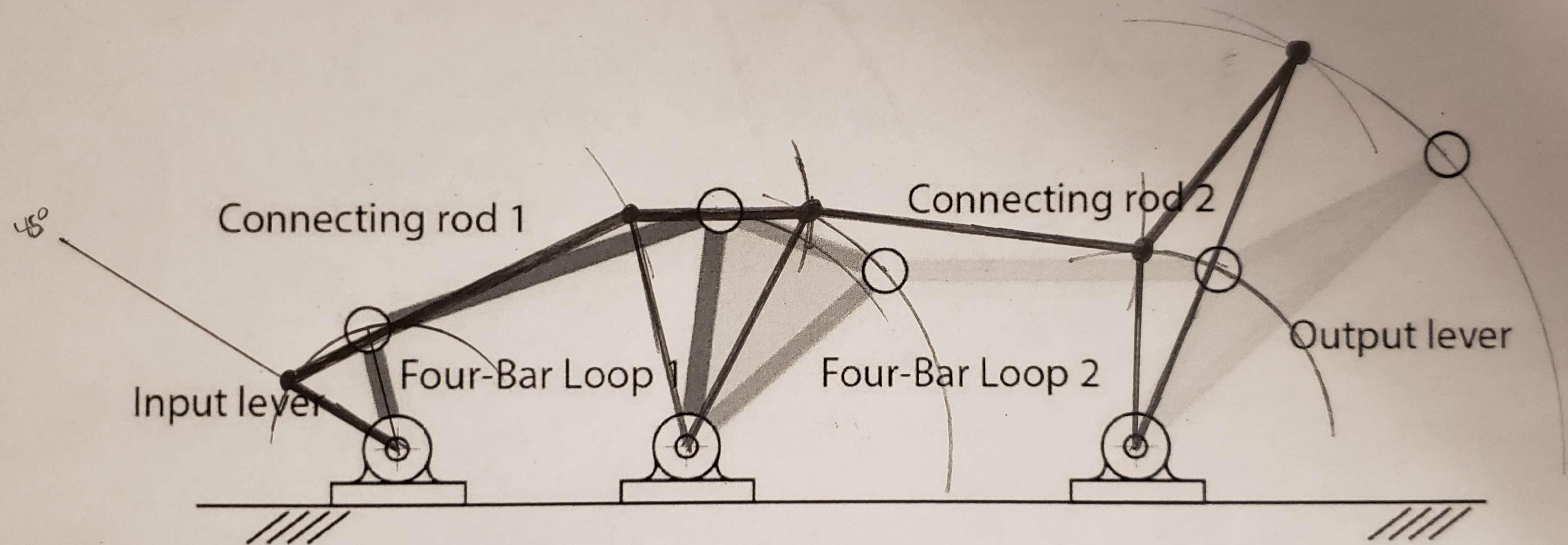


12  
10  
12

$$m = 3(10 - 12 - 1) + 12 = 3$$

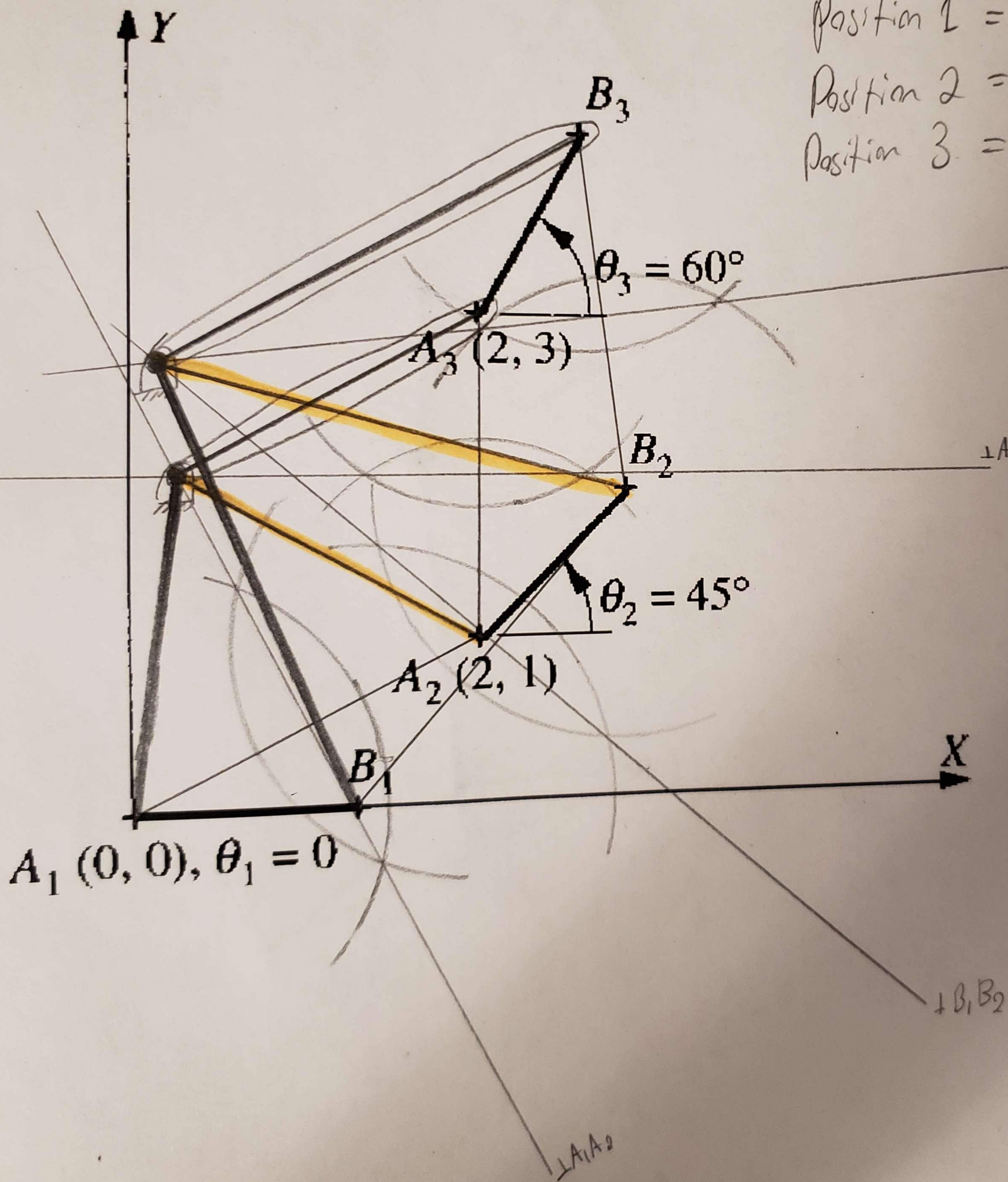
$m \geq 1 \therefore \text{linkage}$







**Six-Bar Linkage**





Position 1 =   
 Position 2 =   
 Position 3 = 