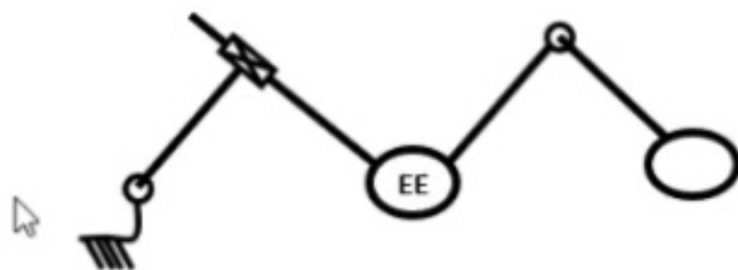
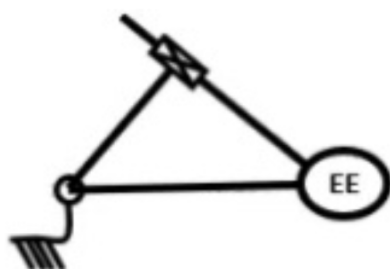


1 to 11: answer the following questions providing a short explanation. + total degree of freedom; + degree of freedom of the EE body; + structural constraint; + actuated constraint (choose one joint as actuated); + if an open chain, structure of the geometric Jacobian

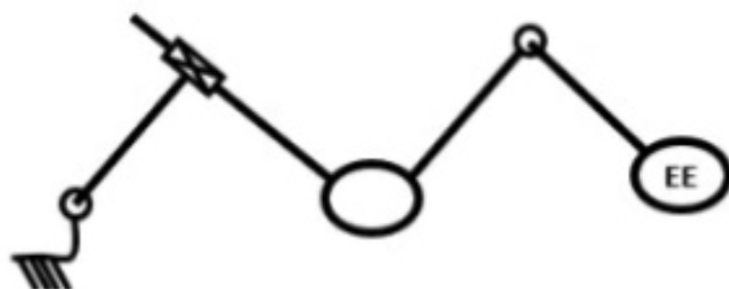
1



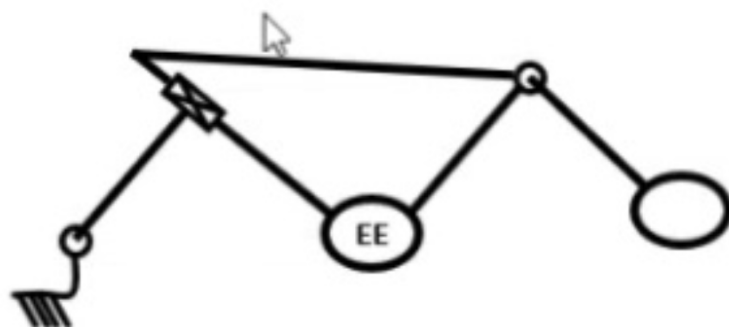
2



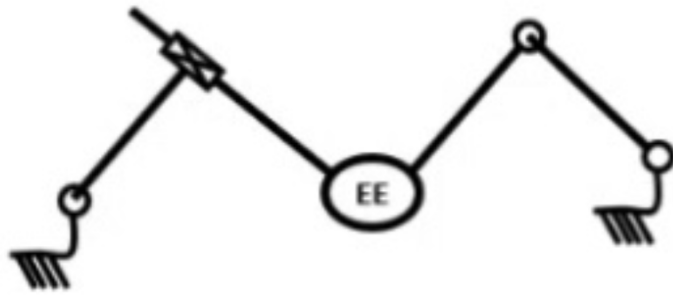
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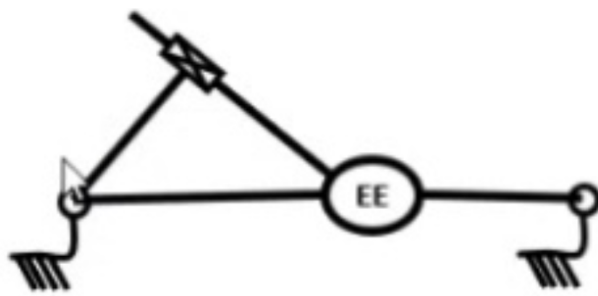
4



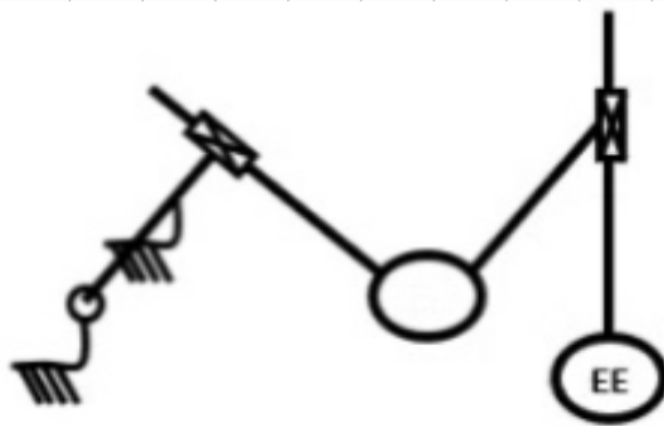
5



6



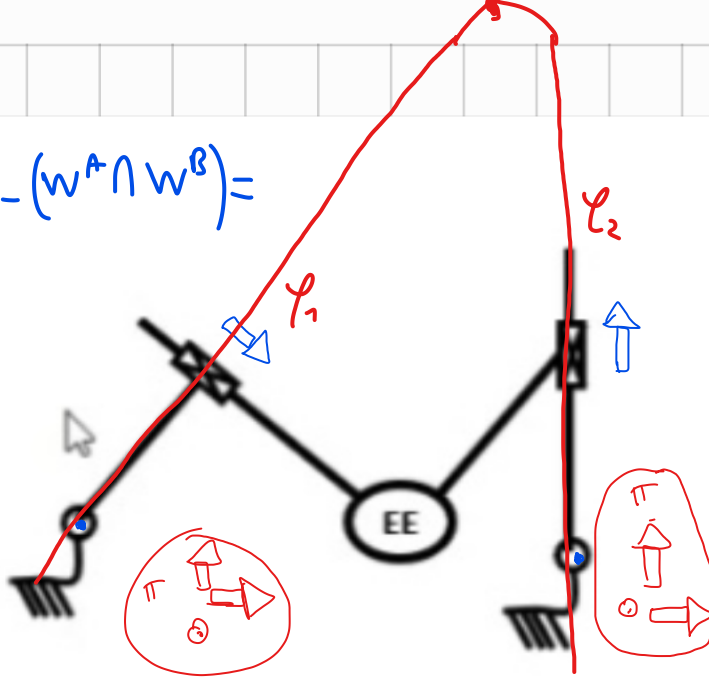
7



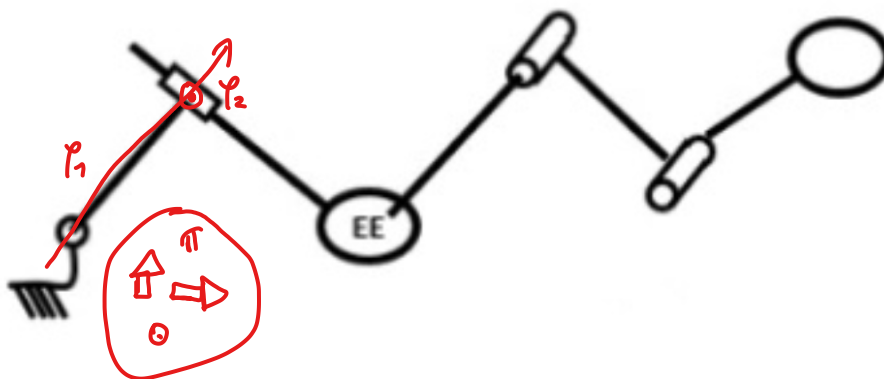
$$W = W^A + W^B - (W^A \cap W^B) =$$

$$= \pi +$$

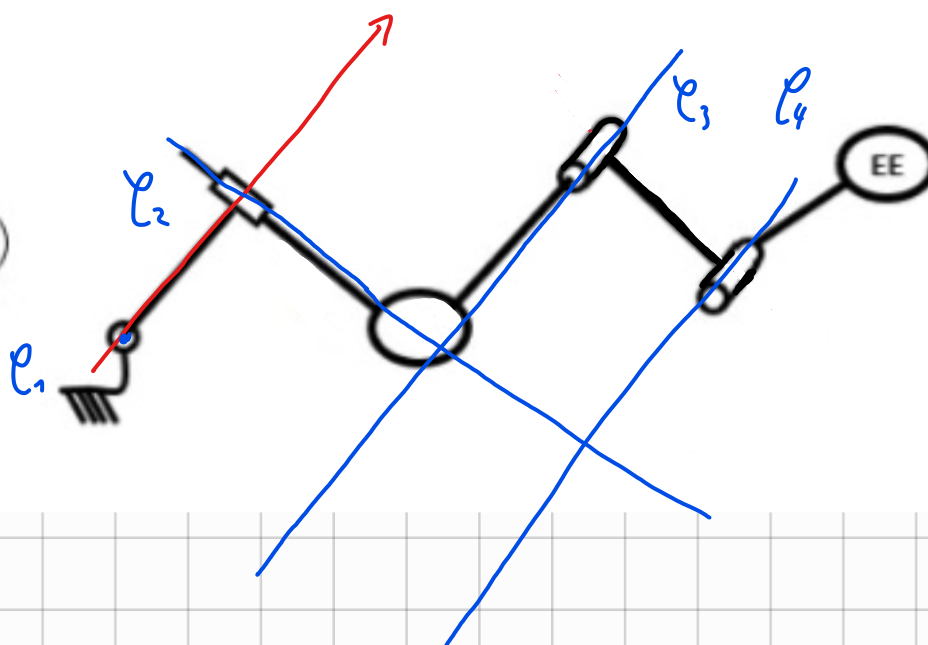
8



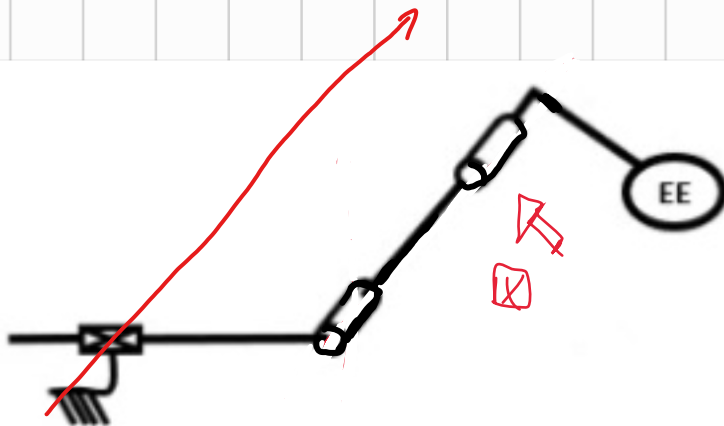
9



10



11



12

write x_1, x_2, x_3
by coordinates

