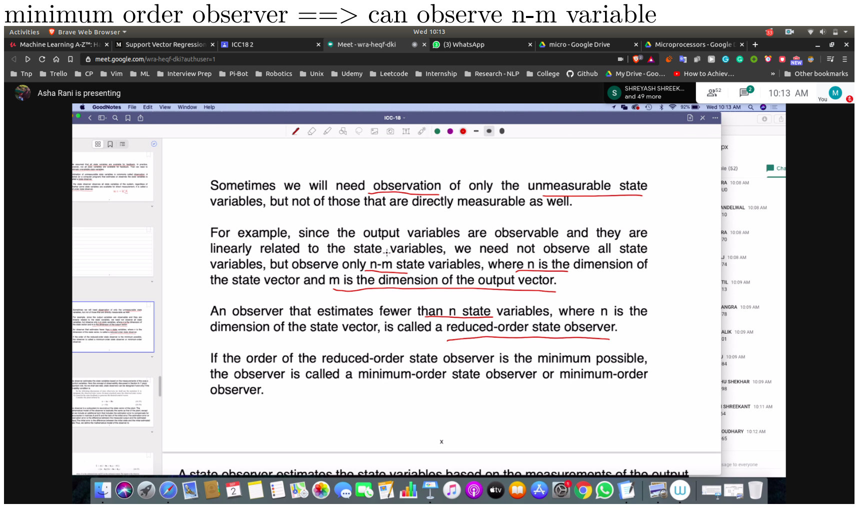
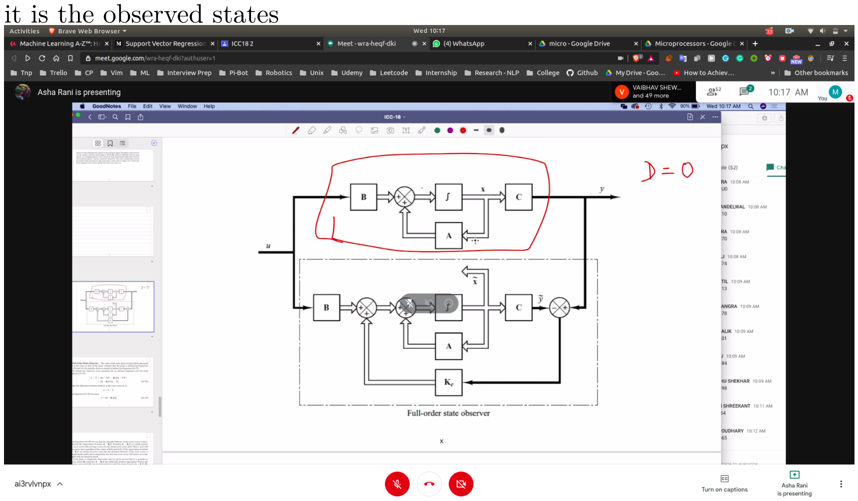
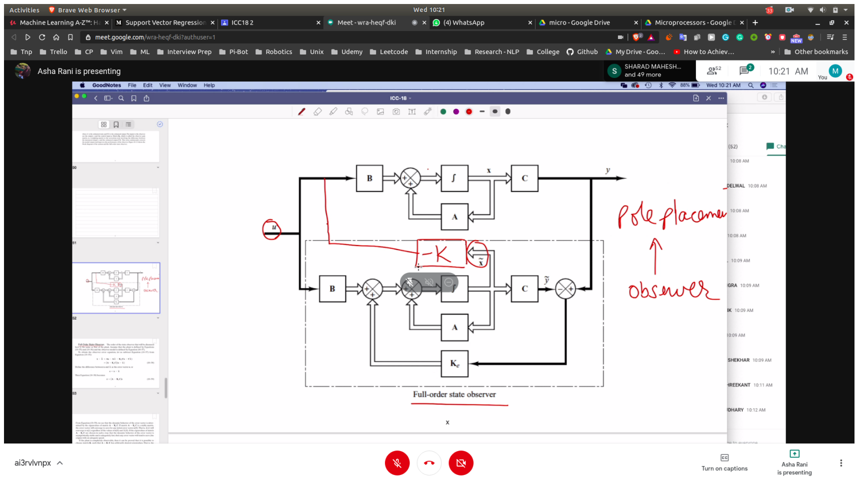
Observer

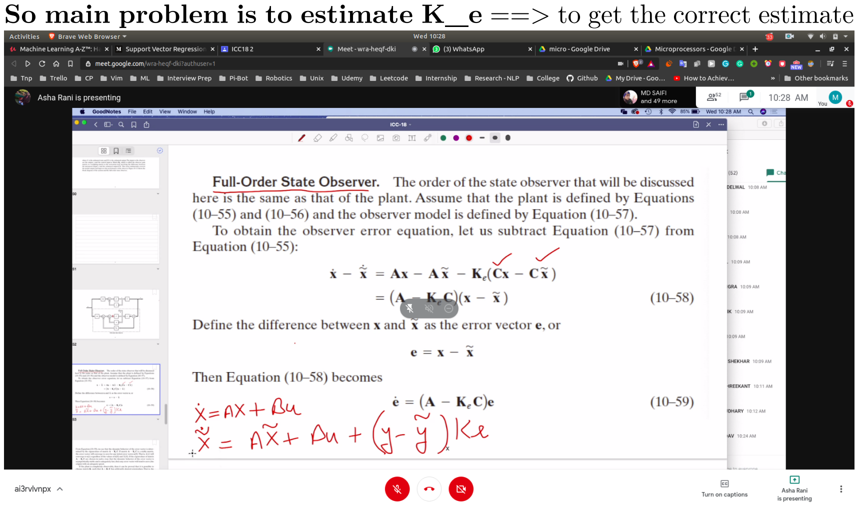
- So we have to observe the unmeasurable values
- we do not need to observe the state
- reduced order observer ==> can observe n-1 variables
- minimum order observer ==> can observe n-m variable
- 

Notation

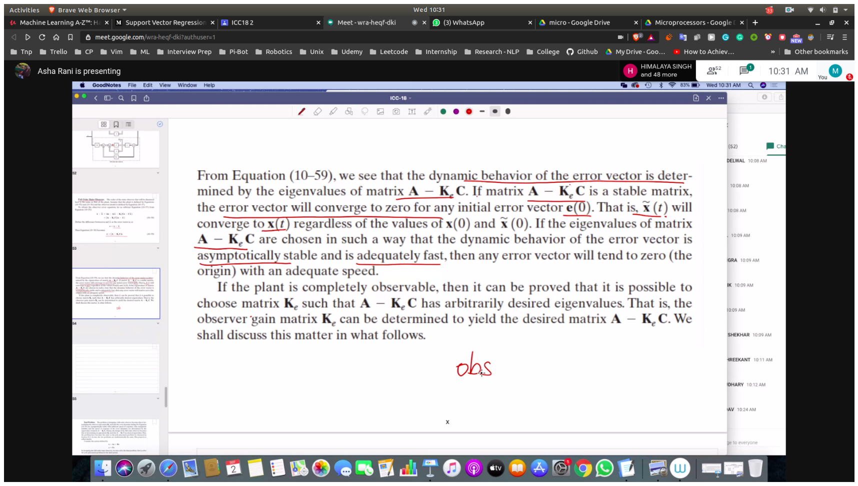
- x~ is the full state observer
- it is the observed states
- 

- 

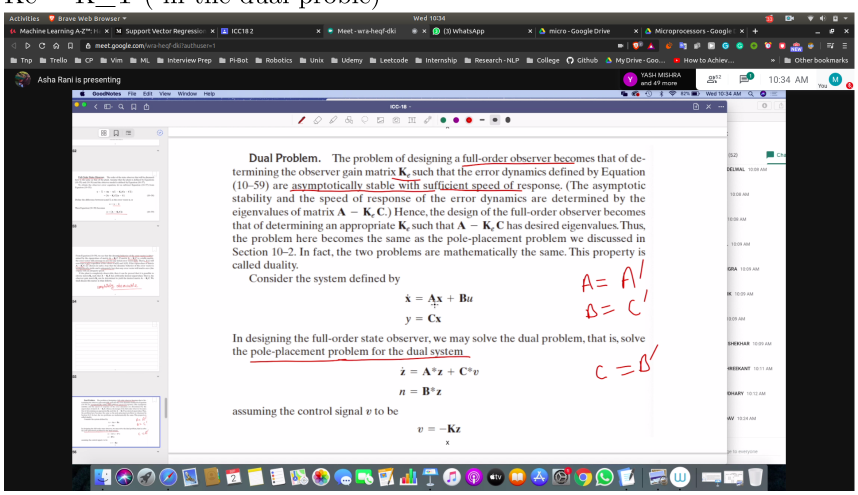
Full Order State Observer

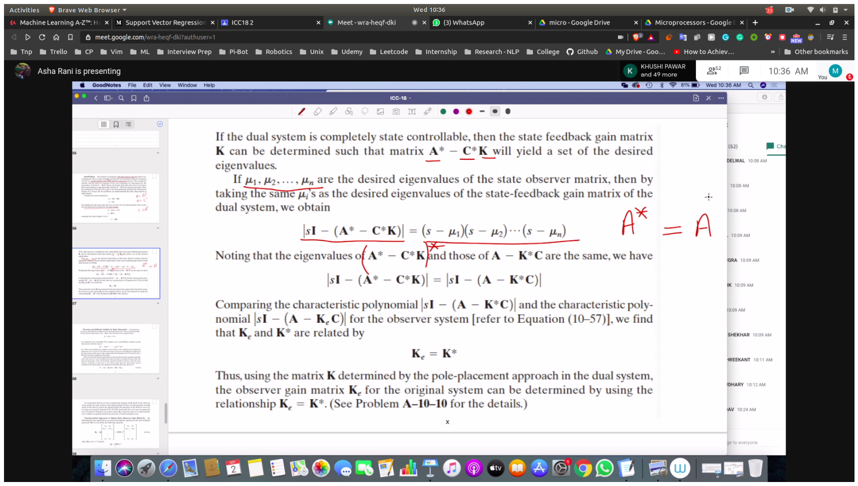
- here also we have to observe the Ke matrix
- now when we make y~ = y then only we will get the correct x observer
- to do that we have to get the value fo K_e
- **So main problem is to estimate K_e** ==> to get the correct estimate
- 

- now e here will be zero , when A-K_eC = 0
- to do that we have to place correct eigen values of A-Kec

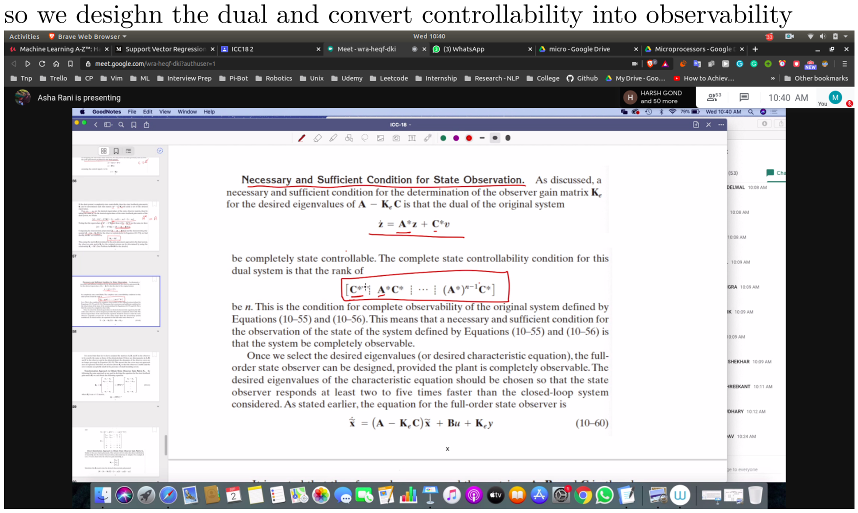
- 

Dual Problem

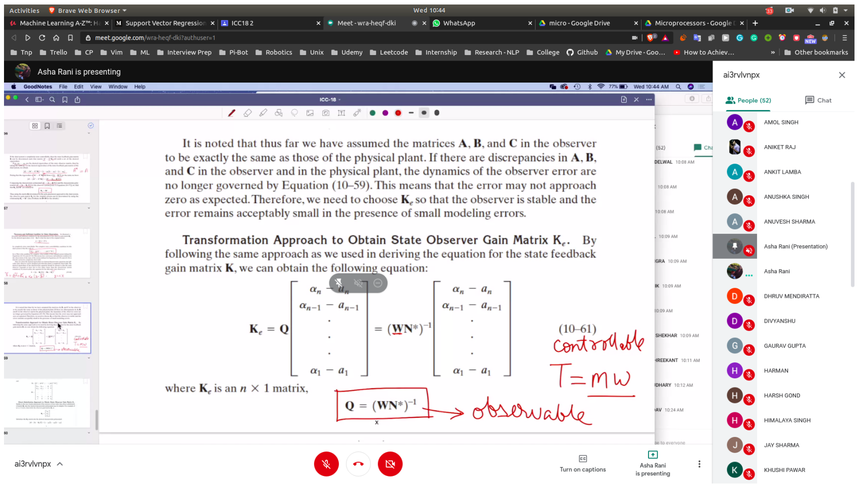
- We treat the system as finding the value of K for dual system
- basicaly in dual we take the transpose of the sytem
- Ke = K_T (in the dual proble)
- 

- 

Condition for state observation

- so we desighn the dual and convert controllability into observability
- 

Transformation method for finding Ke

- 

Direct Substitution Method for finding Ke

-