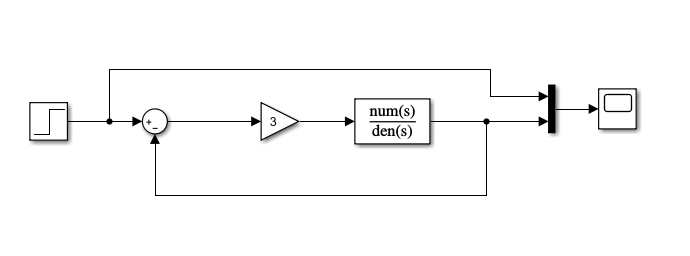
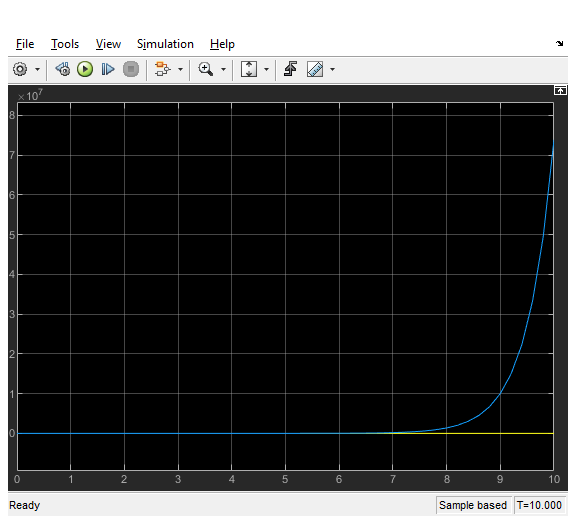
Control Lab

# Task 1

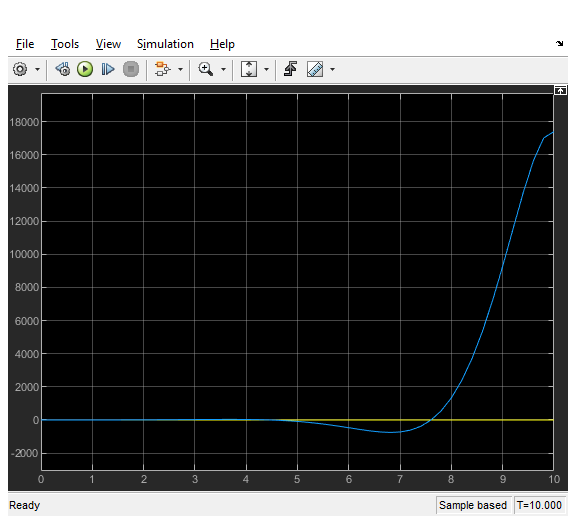


Unstable. When k = 3,

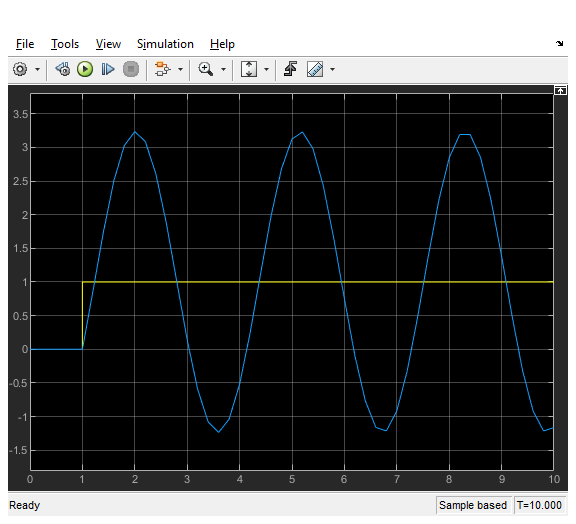


# Task 2

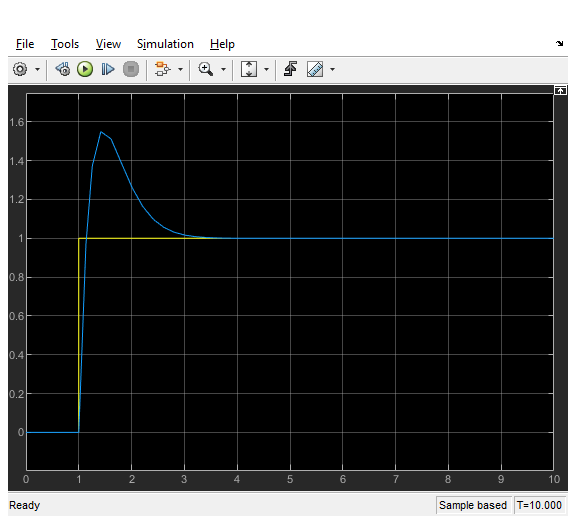
Unstable:

 k = 2

Margin:

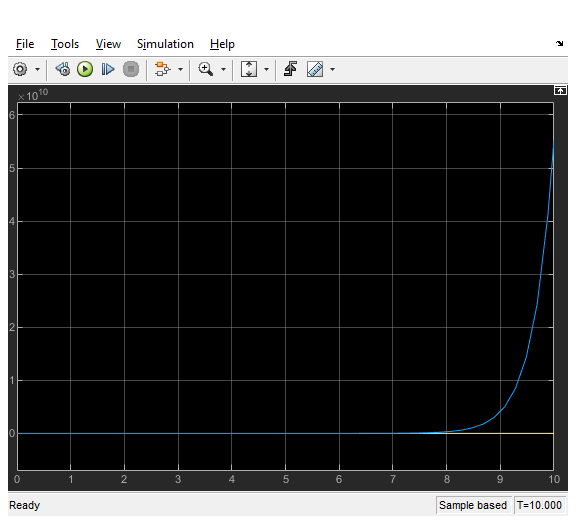
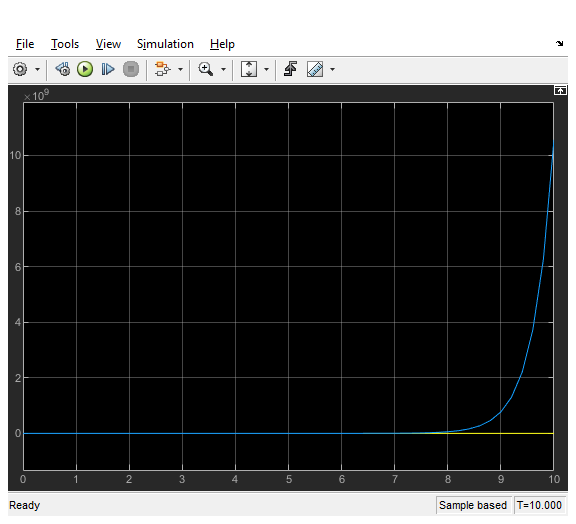
k = 4

Converge:

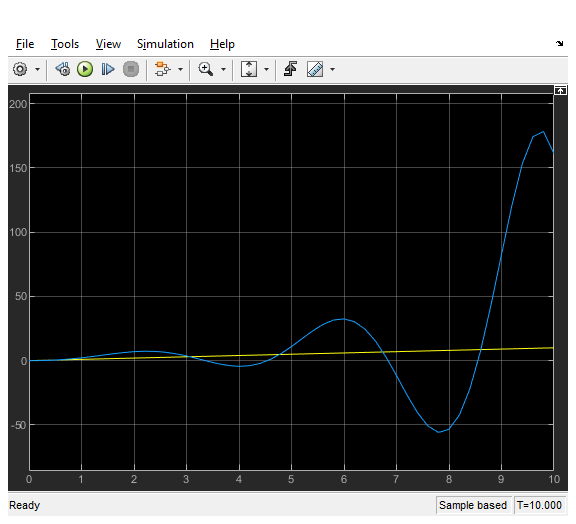
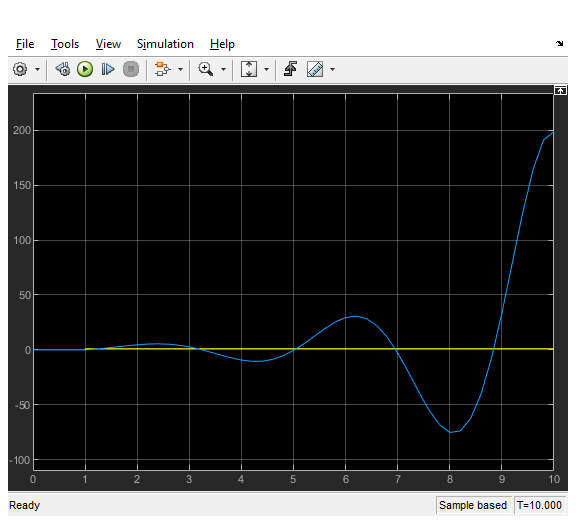
 k =10

# Task 4

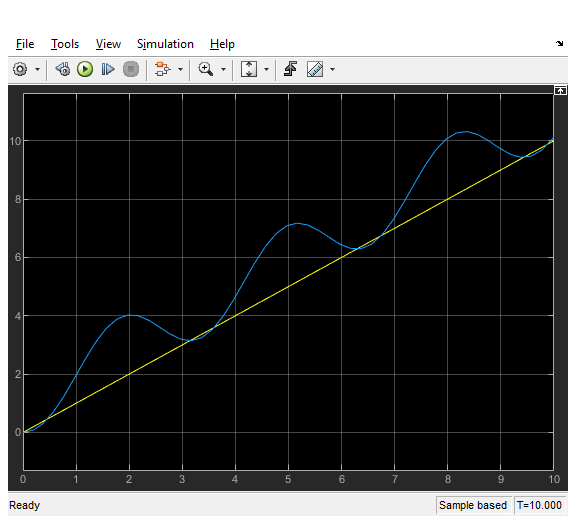
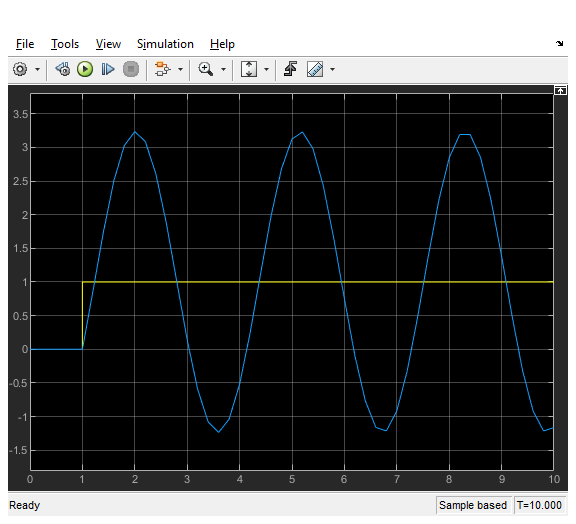
K = 1



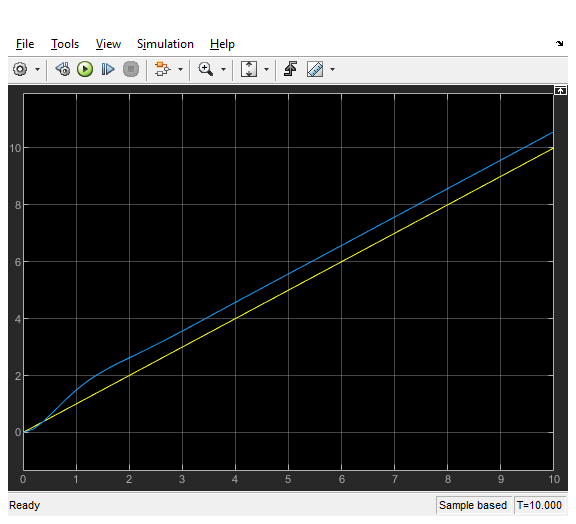
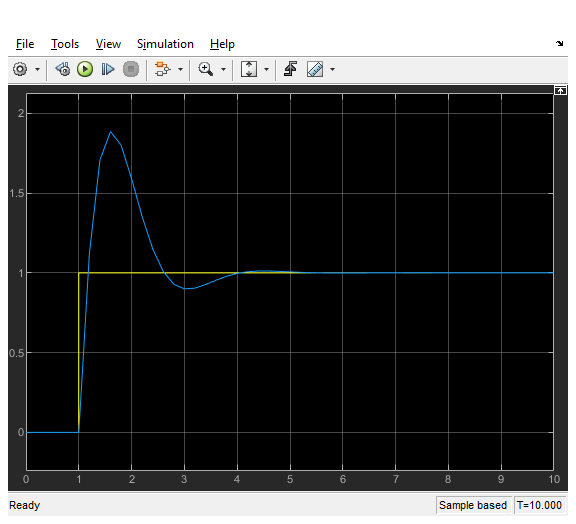
K = 3



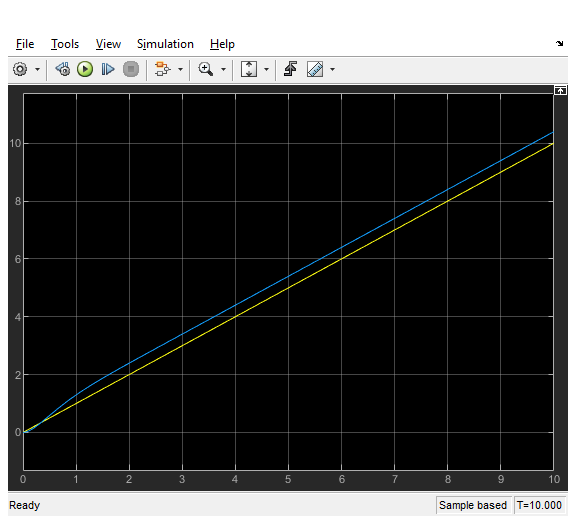
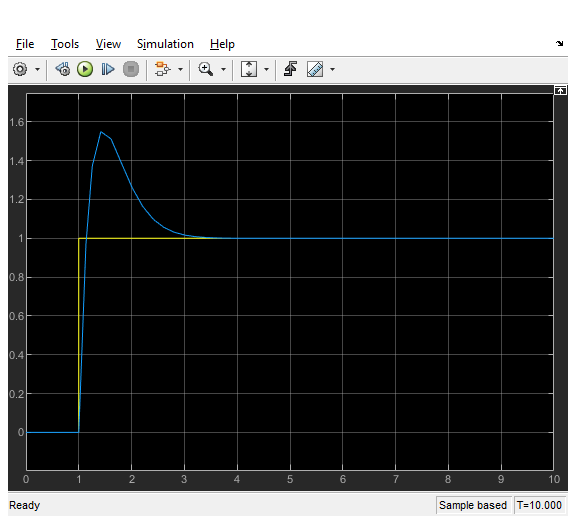
K=4



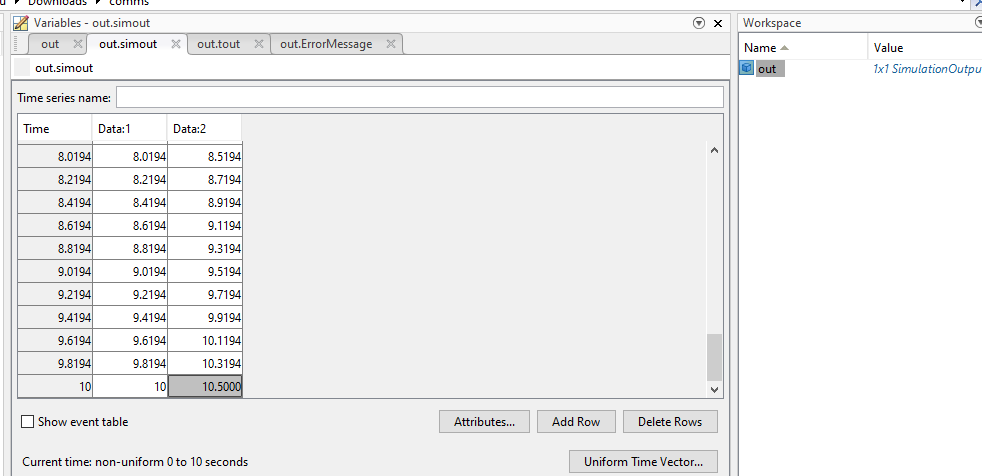
K = 7



K=10



# Task 5



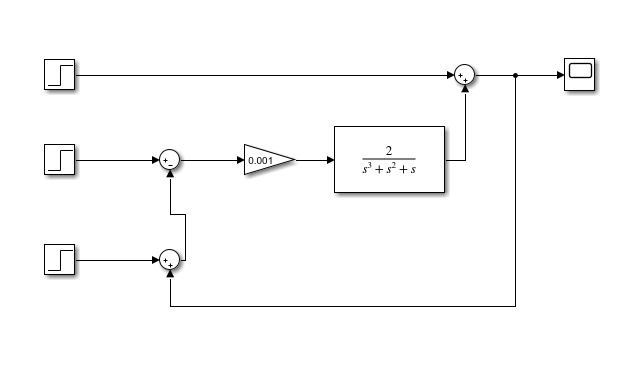
When k = 10, error = 0.4

When k = 8, error = 0.5

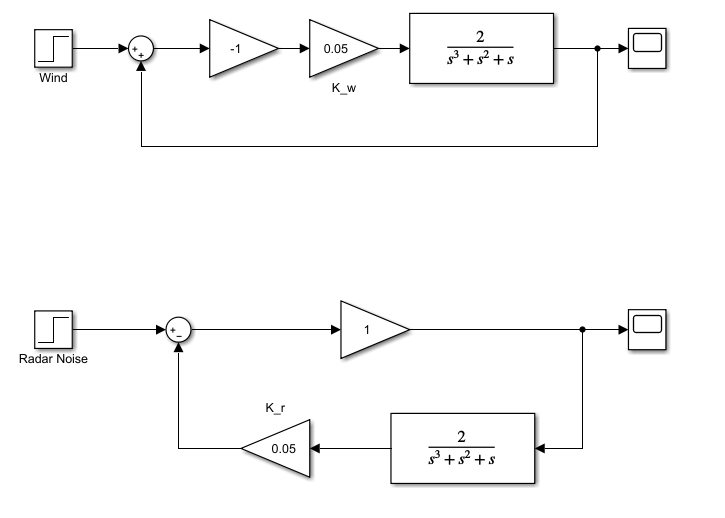
When k = 6, error = 0.6667

When k = 5, error = 0.8044

# Task 6

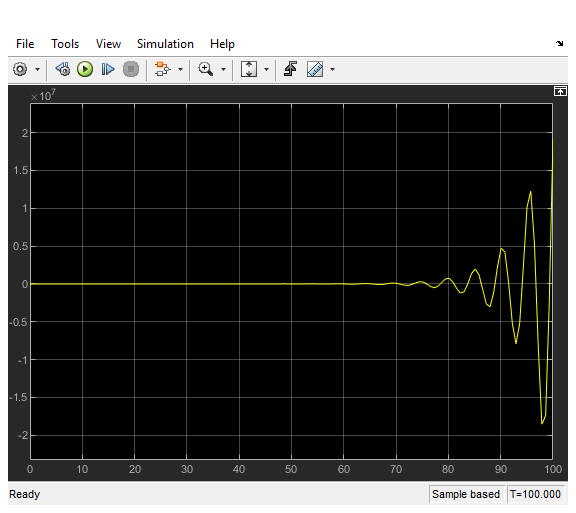
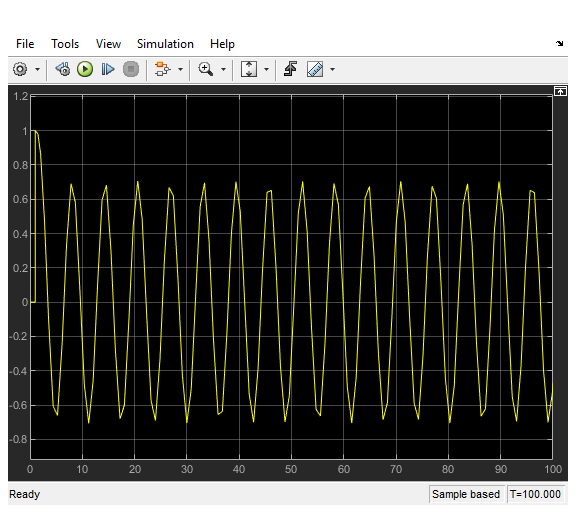
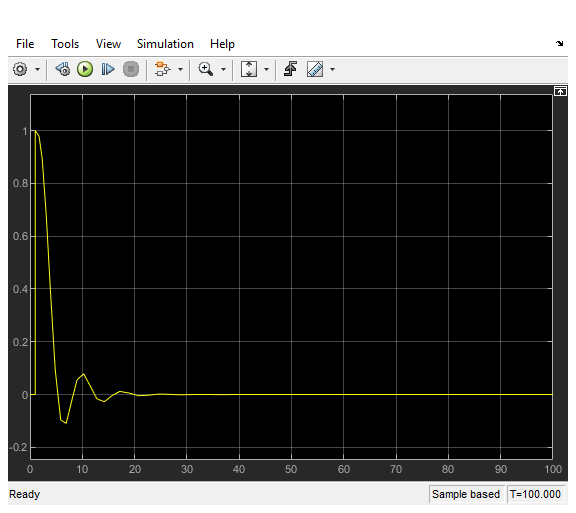


# Task 7

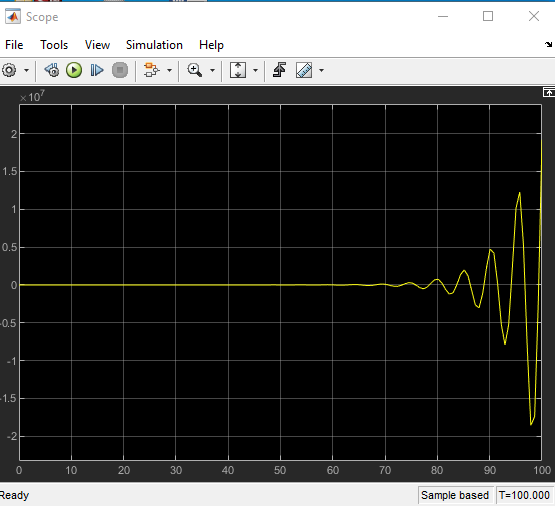
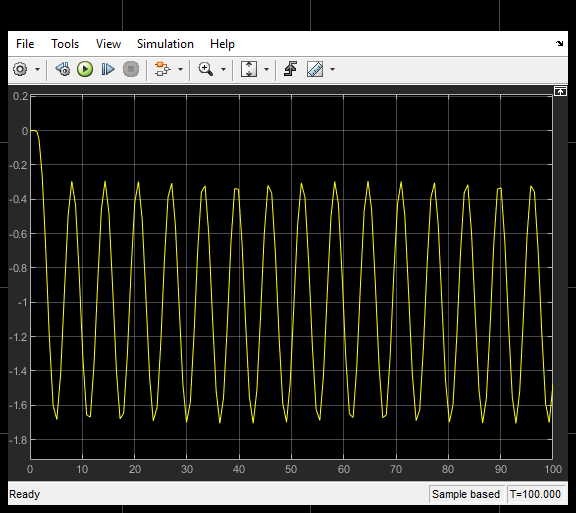
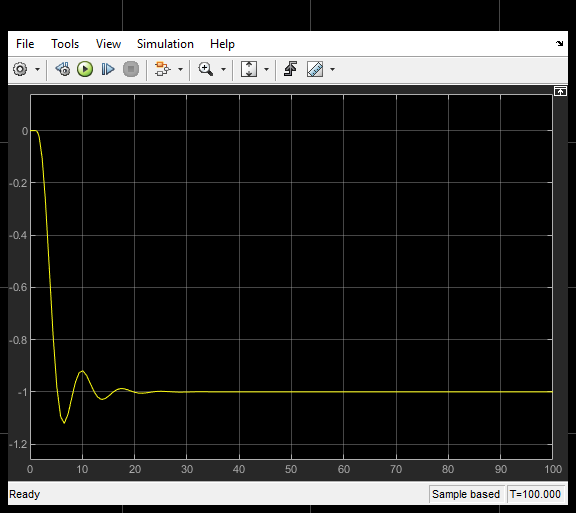


# Task 8

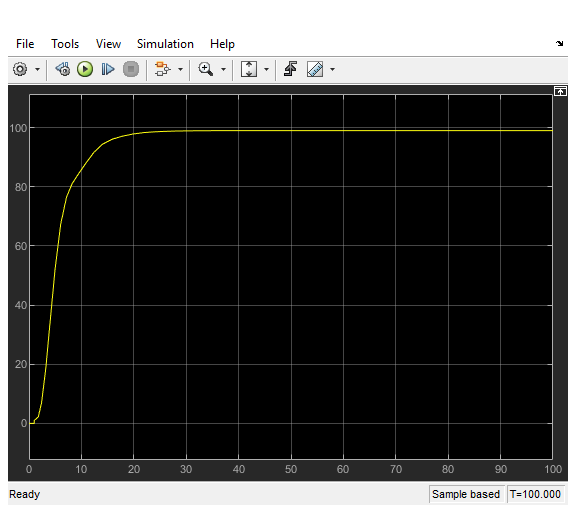
For radar noise, when k = 0.2, 0.5, 1



For wind, when k = 0.2, 0.5, 1



# Task 10

Final in original model with k = 0.1