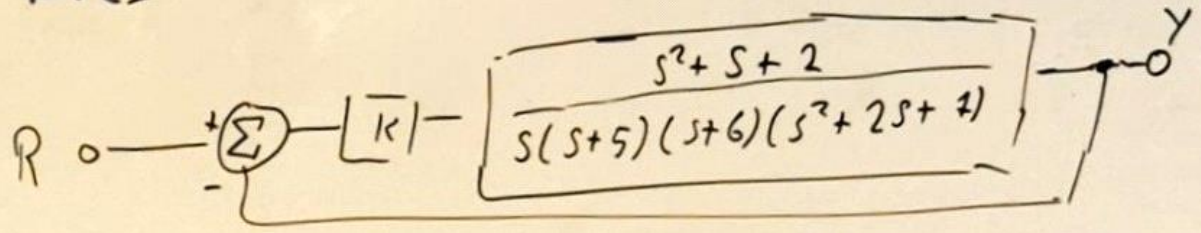
Lec 7

Ex2



open loop: $1 + D(s)G(s)H(s)$

$D(s) = K$

$$T(s) = 1 + K\,\frac{s^2+s+2}{s(s+5)(s+6)(s^2+2s+1)}$$

Poly: $s^5 + 13s^4 + 53s^3 + (k+71)s^2 + (k+30)s + 2k$

s^5	1	53	$k+30$	0
s^4	13	$(k+71)$	$2k$	0
s^3	$618-k$	$111k+319$	0	0
s^2	c_1			
s^1				
s^0				

$$b_1 = \frac{-(1\cdot(k+71) - 13\cdot 53)}{1} = 618 - k$$

$$b_2 = \frac{-((1\cdot 2k) - (13\cdot(k+30)))}{1} = 11k + 319$$

$$c_1 = -\left(\frac{(13\cdot(111k+319)) - ((618-k)\cdot(k+71))}{618-k}\right) = \frac{k^2 - 404k - 39731}{k-618}$$