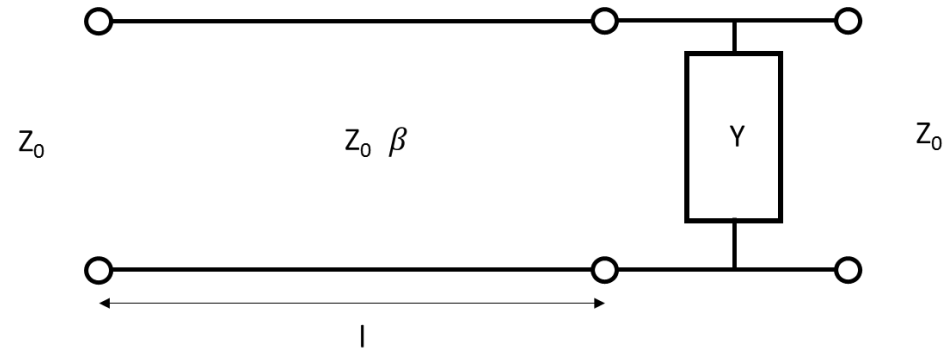
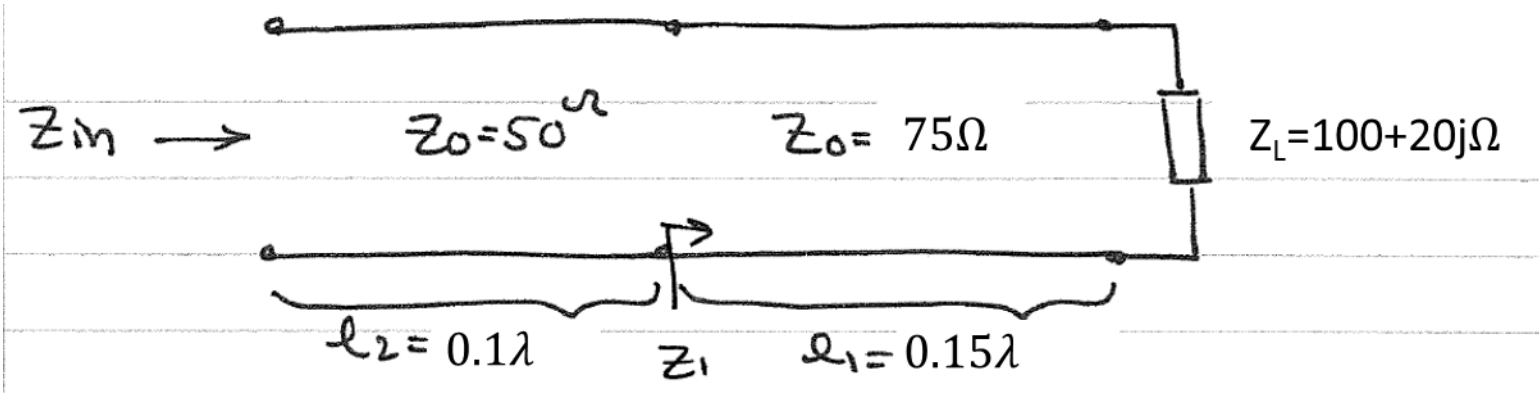
HW10 due to 12/14 (submit online at NTUCOOL before 9 am)

1. For the following circuit, (a) find the ABCD matrix via the Table 4.1 taught in class (b) find the S-parameter in ADS and convert it into ABCD matrix via Table 4.2. The operation frequency is at 1 GHz, Z_0 = 50 Ω. $l = 0.1\lambda$. Y = 100j.



2. Find the Z_1 and Z_{in} via (a) schematic in ADS and (b) Smith chart in ADS.



3. Find the Z_1 and Z_{in} via (a) schematic in ADS and (b) Smith chart in ADS.
Z_L = 100-25jΩ. C = 10 pF. L= 5 nH. The operation frequency is at 1 GHz.