0711518 陳傑中 HW4

Definition of modularity:

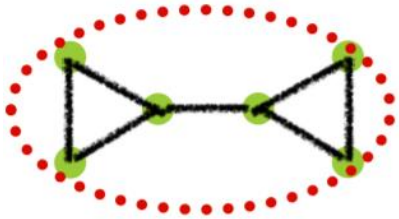
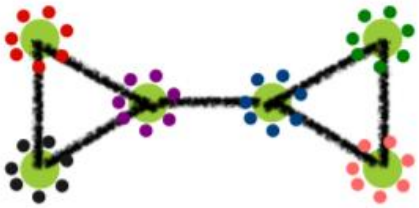
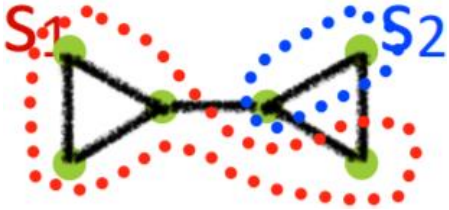
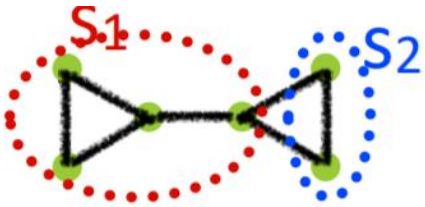
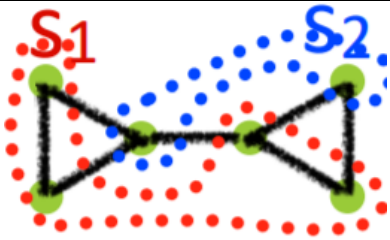
$$Q = \sum_{s=1}^{N_M} \left[\frac{l_s}{L} - \left(\frac{d_s}{2L} \right)^2 \right]$$

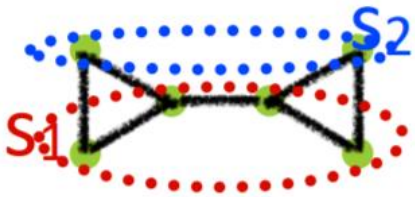
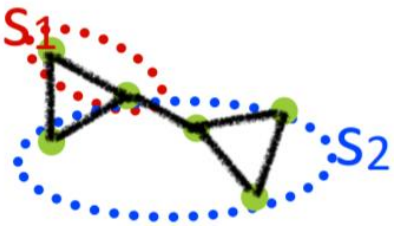
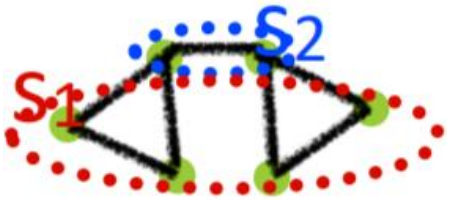
N_M: number of modules

l_s: number of intra-modular links in module s

d_s: sum of the degrees of the nodes in module s

L: total number of links in the network

	N_M= 1 l_1= 7 d_1= 14 L = 7 Q= 0
	N_M= 6 $l_{1\sim6}$= 0 $d_{1\sim4}$= 2, $d_{5\sim6}$= 3 L = 7 Q= -0.173
	N_M= 2 l_1= 3, l_2= 1 d_1= 9, d_2= 5 L = 7 Q= 0.031
	N_M= 2 l_1= 4, l_2= 1 d_1= 10, d_2= 4 L = 7 Q= 0.122
	N_M= 2 l_1= 2, l_2= 0 d_1= 9, d_2= 5 L = 7 Q= -0.255

	N_M= 2 l_1= 3, l_2= 0 d_1= 10, d_2= 4 L = 7 Q= -0.163
	N_M= 2 l_1= 1, l_2= 3 d_1= 5, d_2= 9 L = 7 Q= 0.031
	N_M= 2 l_1= 2, l_2= 1 d_1= 8, d_2= 6 L = 7 Q= -0.082