

2.

	A	B	C	D	E
A	0	4	5	2	3
B	4	0	7	6	8
C	5	7	0	3	4
D	2	6	3	0	6
E	3	8	4	6	0

Cycle 1

$$S_A = 14/3 = 4.66$$

$$S_B = 25/3 = 8.33$$

$$S_C = 19/3 = 6.33$$

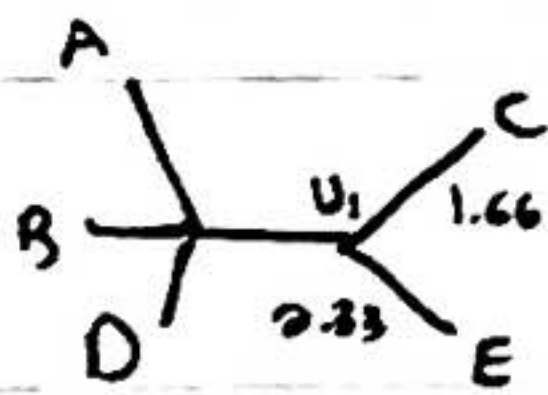
$$S_D = 17/3 = 5.66$$

$$S_E = 24/3 = 8$$

$$M_{CE} = 4 - 6.33 - 7 = -9.33$$

$$S_{CU_1} = \frac{4}{2} + \frac{(6.33-7)}{2} = 1.66$$

$$S_{EU_1} = \frac{4}{2} + \frac{(2-6.33)}{2} = 2.33$$



$$D_{AU_1} = \frac{D_{AC} + D_{AE} - D_{CE}}{2} = \frac{5+3-4}{2} = 4$$

$$D_{BU_1} = \frac{7+3-4}{2} = 5.5$$

$$D_{DU_1} = \frac{3+6-4}{2} = 2.5$$

U, A B D

$$U_1 = 0 \quad 4 \quad 5.5 \quad 2.5$$

$$A \quad 4 \quad 0 \quad 4 \quad 2$$

$$B \quad 5.5 \quad 4 \quad 0 \quad 6$$

$$D \quad 2.5 \quad 2 \quad 6 \quad 0$$

Cycle 2

$$S_{U_1} = 12/2 = 6$$

$$S_A = 10/2 = 5$$

$$S_B = 15.5/2 = 7.75$$

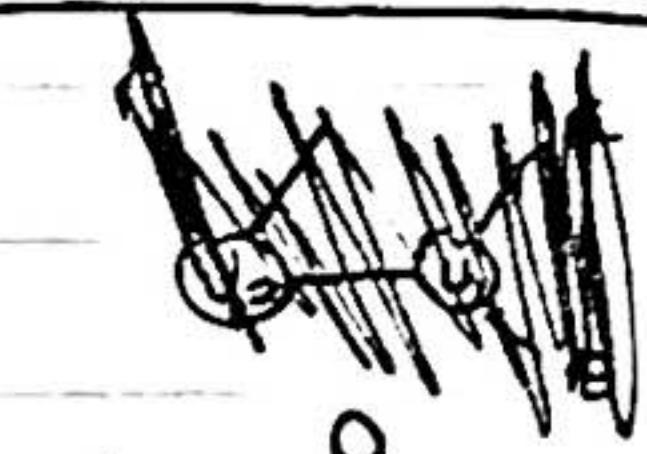
$$S_D = 10.5/2 = 5.25$$

$$M_{AB} = 4 - 5 = -7.75 = -8.75$$

$$M_{DU_1} = 2.5 - 6 - 5.25 = -8.75$$

$$S_{AU_2} = \frac{4}{2} + \frac{(5-7.75)}{2} = 0.625$$

$$S_{BU_2} = \frac{4}{2} + \frac{(7.75-5)}{2} = 3.375$$



$$D_{DU_2} = 2.5$$

$$D_{DU_3} = \frac{2+6-4}{2} = 4$$

$$D_{U_1U_2} = \frac{4+5.5-4}{2} = 2.75$$

U, U2 D

$$U_1 \quad 0 \quad 2.75 \quad 2.5$$

$$U_2 \quad 2.75 \quad 0 \quad 4$$

$$D \quad 2.5 \quad 4 \quad 0$$

Cycle 3

$$S_{U_1} = 5.25$$

$$S_{U_2} = 6.75$$

$$S_D = 6.5$$

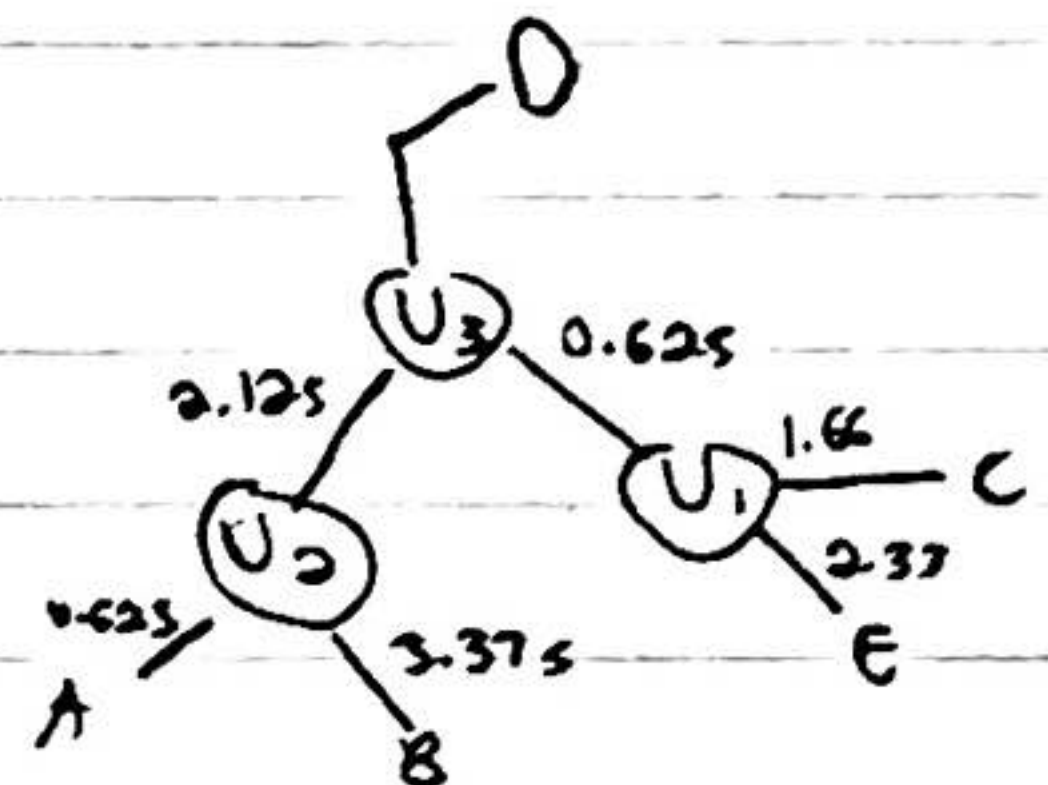
$$M_{U_1U_2} = -9.25$$

$$M_{U_1D} = -9.25$$

$$M_{U_2D} = -9.25$$

$$S_{U_1U_3} = \frac{2.75}{2} + \frac{(5.25-6.75)}{2} = 0.625$$

$$S_{U_2U_3} = \frac{2.75}{2} + \frac{(6.75-5.25)}{2} = 2.125$$



$$D_{DU_3} = \frac{2.5+4-2.75}{2} = 1.875$$

V) Answer

