

Review

- ① Order the vertices and label the rows and columns of a matrix with the ordered vertices. The entry in row i , column j , $i \neq j$, is the number of edges incident on i and j . If $i = j$, the entry is twice the number of loops incident on i . The resulting matrix is the adjacency matrix of the graph.
- ② The i - j th entry in A^n is equal to the number of paths of length n from vertex i to vertex j .
- ③ Order the vertices and edges and label the rows of a matrix with the vertices and the columns with the edges. The entry in row v and column e is 1 if e is incident on v and 0 otherwise. The resulting matrix is the incidence matrix of the graph.

Exercise 1-17 odd

①

	a	b	c	d	e
a	0	1	1	1	1
b	1	0	1	0	0
c	1	1	0	1	1
d	1	0	1	0	1
e	1	0	1	1	0

③

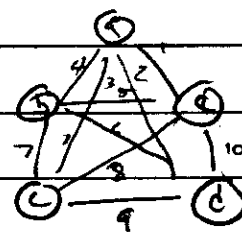
	a	b	c	d	e
a	0	1	0	0	0
b	1	0	0	0	0
c	0	0	0	1	1
d	0	0	1	0	1
e	0	0	1	1	0

8.5 exercise continued

(5)

	a	b	c	d	e
a	0	1	1	1	1
b	1	0	1	1	1
c	1	1	0	1	1
d	1	1	1	0	1
e	1	1	1	1	0

$K_5 =$



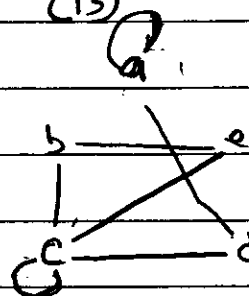
(7)

	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8
a	1	0	1	0	1	1	0	0
b	1	1	0	0	0	0	0	0
c	0	1	0	1	1	0	1	0
d	0	0	0	1	0	1	0	1
e	0	0	1	0	0	0	1	1

(9)

	x_1	x_2	x_3	x_4
a	1	0	0	0
b	1	0	0	0
c	0	1	1	0
d	0	0	1	1
e	0	1	0	1

(13)



(11)

	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9
a	1	1	1	1	0	0	0	0	0
b	0	0	0	1	1	1	1	0	0
c	0	0	1	0	1	0	0	1	1
d	0	1	0	0	0	1	0	1	0
e	1	0	0	0	0	0	1	0	1

(15)

