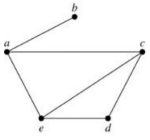




## ① Adjacency list

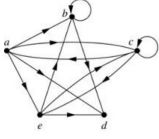
by specifying the vertices that are adjacent to each vertex of the graph.

ple:



Vertex	Adjacent Vertices
a	b, c, d
b	a, c
c	a, b, d
d	a, c, e
e	d

le:

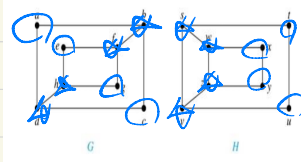


Initial Vertex	Terminal Vertices
a	b, c, d, e
b	a, c
c	a, b, d
d	a, c, e
e	d

[Jump to long description](#)

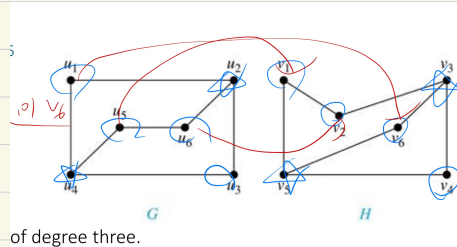
⇒ 어떤 글자나 기호는

- ① vertex set
  - ② edge set
  - ③ degree sequence
- 이런 search



⇒ A가 mapping이 되는 mapping이 degree가 2이면  
HMM  $u, v, x, y$ 를 하나 하나,  $\frac{1}{2}$   
연결한 vertex의 degree ( $\frac{1}{2}, \frac{1}{2}$ )이 아니므로

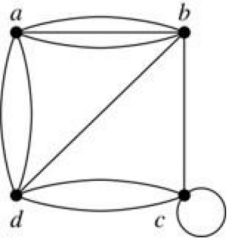
⇒ isomorphism이 아니다!



of degree three.

⇒ isomorphism 관계!

② Adjacency matrix ⇒ dot vector처럼 0, 1로 mapping한 matrix 형태로 표현.



	a	b	c	d
a	0	3	0	2
b	3	0	1	1
c	0	1	1	2
d	2	1	2	0

[Jump to long description](#)

각각의 multiplicity를 행렬로 표현하는 → 물론 1.5도 가능

a	(b,3), (d,2)
⋮	

③ incidence matrix (vertex, edge) 형태로 matrix 표현.

Example: Simple graph and incidence matrix

	$v_1$	$v_2$	$v_3$	$v_4$	$v_5$
$e_1$	1	0	0	0	0
$e_2$	0	1	0	0	0
$e_3$	0	0	1	0	0
$e_4$	0	0	0	1	0
$e_5$	1	0	1	0	0
$e_6$	0	1	0	1	1

각각의 edge가 vertex에 연결하고, 각각하는 edge에 연결된 vertex를 1로 mapping.

④ Isomorphism (동형) ⇒ one to one correspondence가 되는 관계 (bijection)

⇒ 정렬이 가능이 어려우므로, (n! 범위의 one to one correspondence 관계를 brute search)