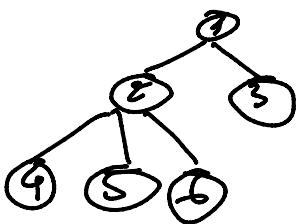


Graph

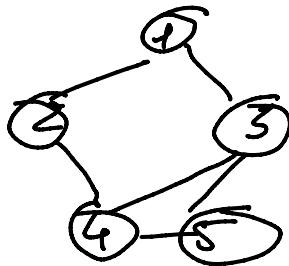
Tuesday, August 31, 2021 8:25 AM



unsorted list



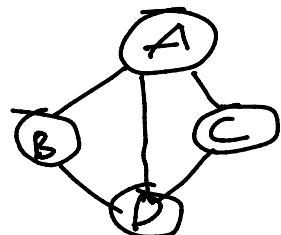
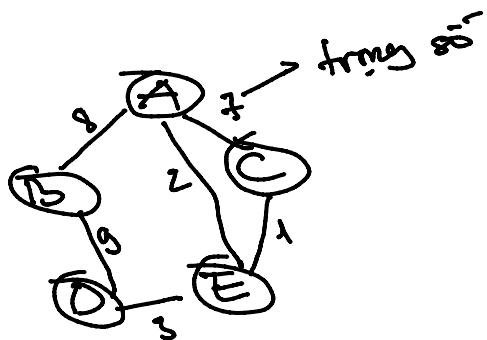
Tree



canh

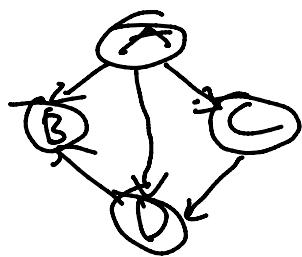


Phân bài đồ thị

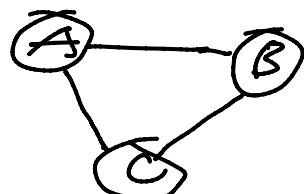


đồ thị ko trọng số

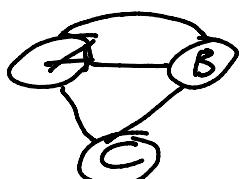
đồ thị ko G có trọng số



đồ thị có hướng

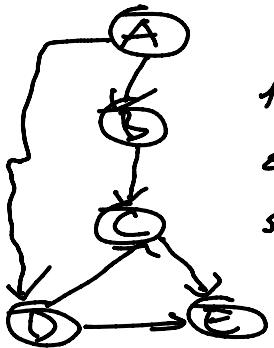


đồ thị có hướng
đồ thị có vòng



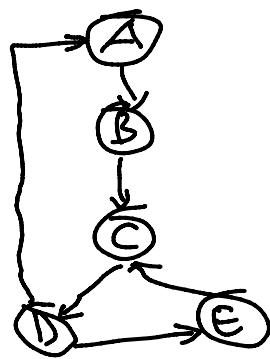
đồ thị





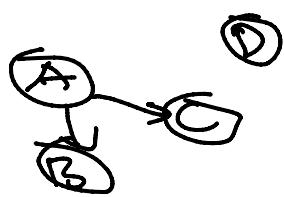
1 A, B, C, E
 2 A, D, C, E
 3 A, B, E

Lien thong yeu

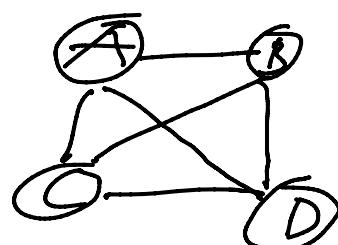


1 A, B, C, D, E

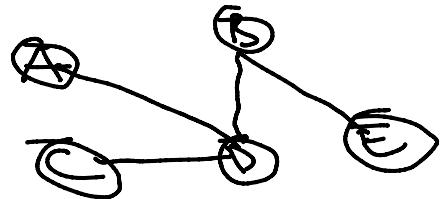
Lien thong manh



Do thi bi
ngat tiet cung



Do thi day doi

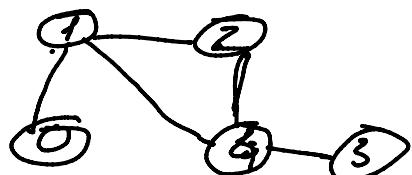


Do thi them that

Bieu dien do thi



Ma tran le



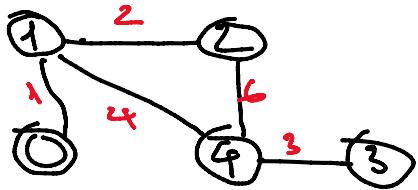
Ap dung

v	0	1	2	3	4
0	-	1	-	-	-
1	1	-	1	-	1
2	-	1	-	-	1
3	-	-	-	-	1
4	-	1	1	1	-

Đồ thị

Đồ thị có hướng / vô hướng

Có trọng số



	0	1	2	3	4
0	0	1	0	0	0
1	1	0	2	0	4
2	0	2	0	0	6
3	0	0	0	0	3
4	0	4	6	3	0

④ Dạng mảng định kh

node

many

0
1
2
3
4

node liên kết

1
0 2 4
1 4
4
1 2 3

Áp dụng

- Đồ thị
- Có hướng / vô hướng
- Không có trọng số

⑤ Dạng mảng có sẵn



{0, 1}, {1, 2}, {1, 4}, {2, 4}, {3, 5}

Áp dụng

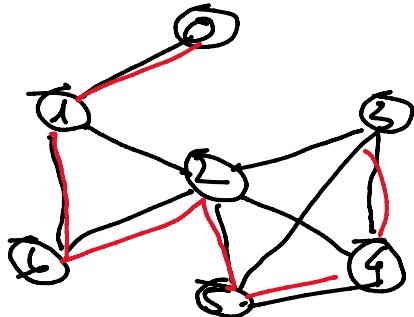
- Đồ thị
- Vô hướng
- Không có trọng số

⑥ Theo bài

⊕ Theo bài

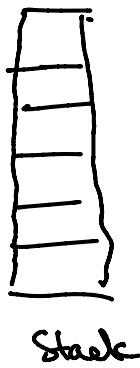
- Depth first search DFS - stack, Recursion
- Breadth first search BFS - Queue

⊕ DFS



	0	1	2	3	4	5	6
0	-	1	-	-	-	-	-
1	1	-	1	-	-	-	1
2	-	1	-	1	1	1	1
3	-	-	1	-	1	1	-
4	-	-	1	1	-	-	-
5	-	-	1	1	-	-	-
6	-	1	1	-	-	-	-

LIFO

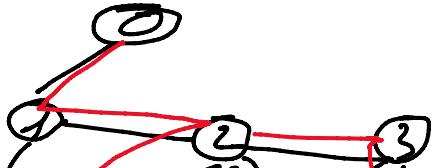


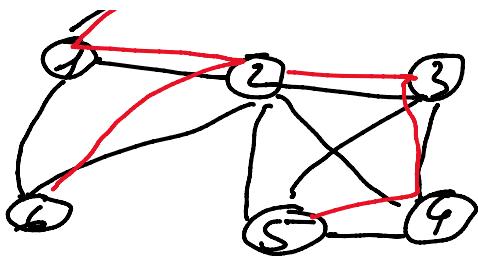
[0|1|6|2|5|4|3]

- 1 push (0)
- 2 push (1)
- 3 push (6)
- 4 push (2)
- 5 push (5)
- 6 push (4)
- 7 push (3)

* BFS

Queue (FIFO)





0|1|2|3|4|5|

Queue 0|1|2|3|4|5|

- 1 poll (0)
- 2 poll (1)
- 3 poll (2)
- 4 poll (3)
- 5 poll (4)
- 6 poll (5)
- 7 poll (5)

Dijkstra

Dij's Dijkstra

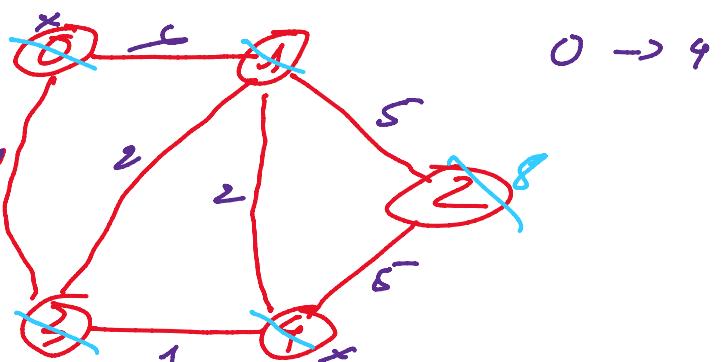
B1

đã

lập ngẫu lô
nút bắt tay

dijkstra

0	0
+	3
2	7
1	0
4	3



0 → 5

0	1	2	3	4	
0	0	6	0	1	0
1	6	0	5	2	2
2	0	5	0	0	5
3	1	2	0	1	0
4	0	2	5	1	0