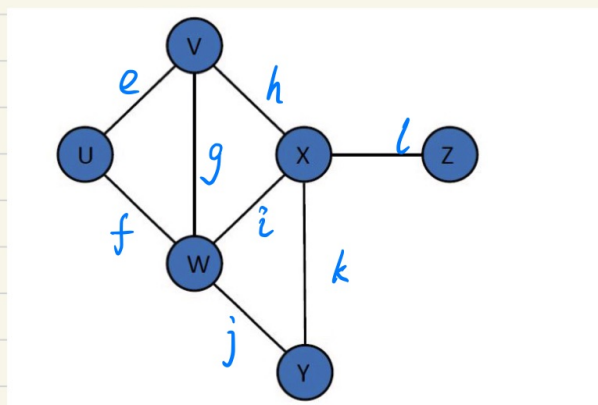


CP2410 Practical 11

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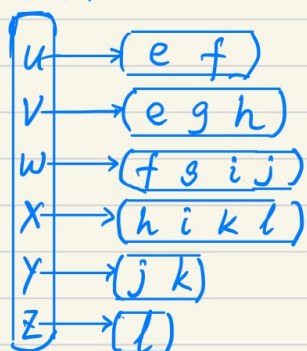
Question 1

Q 1.



a) adjacent list.

Vertex



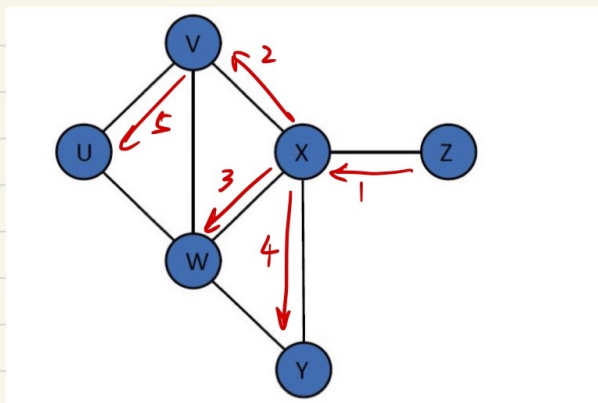
b) adjacent matrix

	u	v	w	x	y	z
	0	1	2	3	4	5
u 0		e	f			
v 1	e		g	h		
w 2	f	g		i	j	
x 3		h	i		k	l
y 4			j	k		
z 5				l		

Question 2

The breadth-first search method goes over all edge nodes in alphabetical order, outputs unvisited nodes, keeps a record of visited nodes, and stores edge nodes in a queue. Once all edge nodes of the current node are visited, we will dequeue a new node from queue as current node, until no more nodes left in the queue.

Q 2.



Queue

FIFO

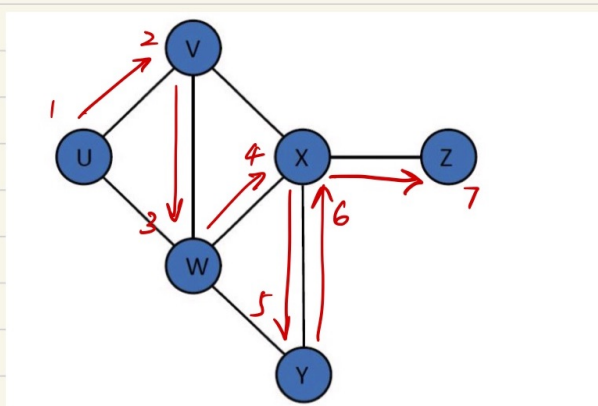
BFS . starting at node "Z".

Output: Z X V W Y U

Question 3

Depth-first search method will keep going to next unvisited edge node in alphabetical-order, keep track of visited nodes, store visit path in a stack, until all edge nodes of current node are visited. Then, backtrack to the previous node by pop from the stack, until no more nodes left in the stack.

Q 3.



Stack

LIFO

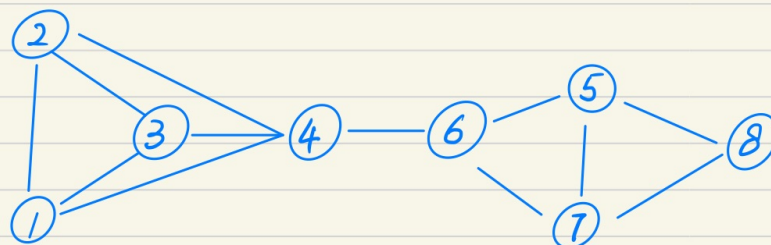
DFS . starting at node "U"

Output: U V W X Y Z

Question 4

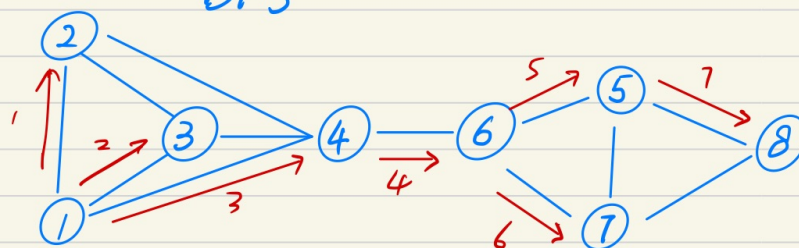
Q4.

a).



b)

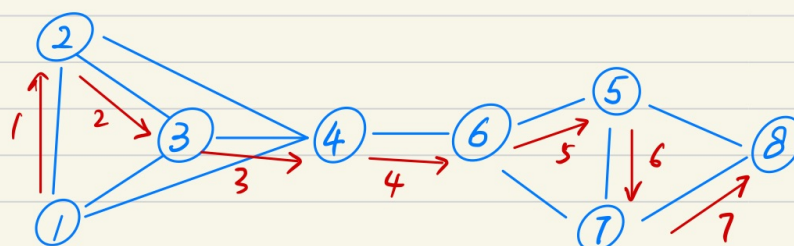
BFS



Output : 1, 2, 3, 4, 6, 5, 7, 8

c).

DFS.



Output : 1, 2, 3, 4, 6, 5, 7, 8