

Q. (a) Same idea Q. (b) in the sample

(c) (8 points) Choose the most appropriate data structure for each of the following tasks.

(b)

A. LinkedList.	B. ArrayList.	C. DoubleLinkedList.	D. LinkedQueue.
E. LinkedPQueue.	F. LinkedStack.	G. BT.	H. BST.
I. AVL.	J. BPlusTree.	K. HeapPQueue.	L. Graph.

① need unknown numbers of integers
from file, and take input from the user
sum, average, min, max, product the numbers
answer → **LinkedList**

(2)

③ take a text from the user and check
the spelling from a pre-stored words
answer → **AVL**

(4)

in the emergency services at the hospital
cases are presented according to severity of
the case. And at the same level of severities
apply first arrival.
answer → **Linked PQ**

Q₂ (a)

True or False

Sort	worst case $O(n \log n)$	comparison	in place	stable
merge				
Quick				
Radix				

(b) given this array

$\{(5, D), (3, A), (5, B), (2, E), (3, B), (7, E), (1, F)\}$

Give the final result after sorting

bubble, heap (sif down if left child equal Right child take left child)

Q₃ coding

(a) Solve it as member of BT

private boolean f(BNode t, T e, int k) depth from t begins from 0
check if the data e appears in subtree t in depth that is greater
than or equals to k

(b) solve it as a user

Q₄ Heap
a → MCQ ⇒ Multiple choice Question

(b)

20, 18, 12, 10, 11, 5, 2, 6, 4, 3

① insert 19

② insert 1 then 23

③ delete 1 Key

④ delete 2 Keys

Q₅ a MCQ AVL

(b) insert, delete in AVL

Q₆ a MCQ Hash

(b) linear hashing, external chaining

, coalesced chaining celler 2

25, 13, 14, 23, 16 % 5

Q₇ (a) MCQ B+

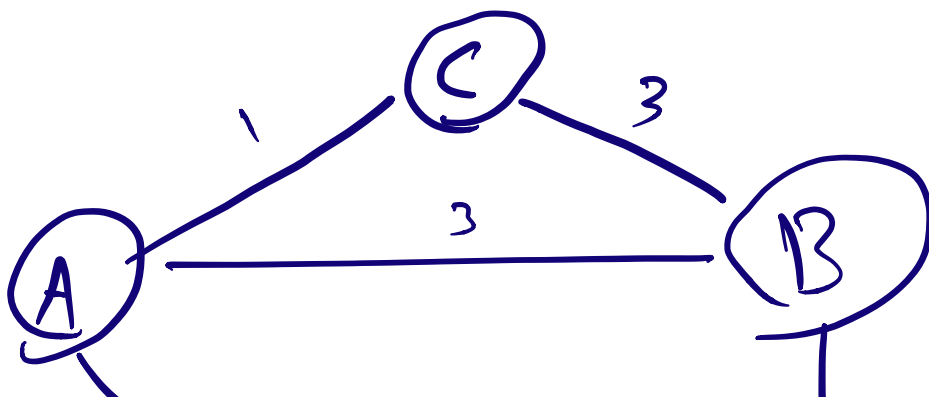
(b) insert, delete in B+

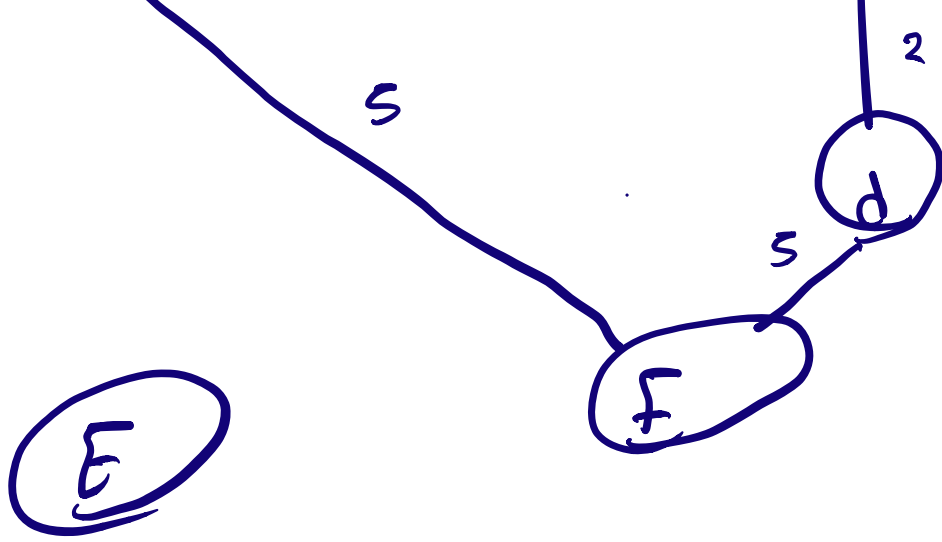
Q₈ Graph

(a) MCQ

(b)

	A	B	C	D	E	F	
A		3	1			5	
B	3		3	2			
C	1	3					
D		2				5	
E							
F	5			5			





True, false Question

BFS AND DFS

start from A (order Alphabetically)