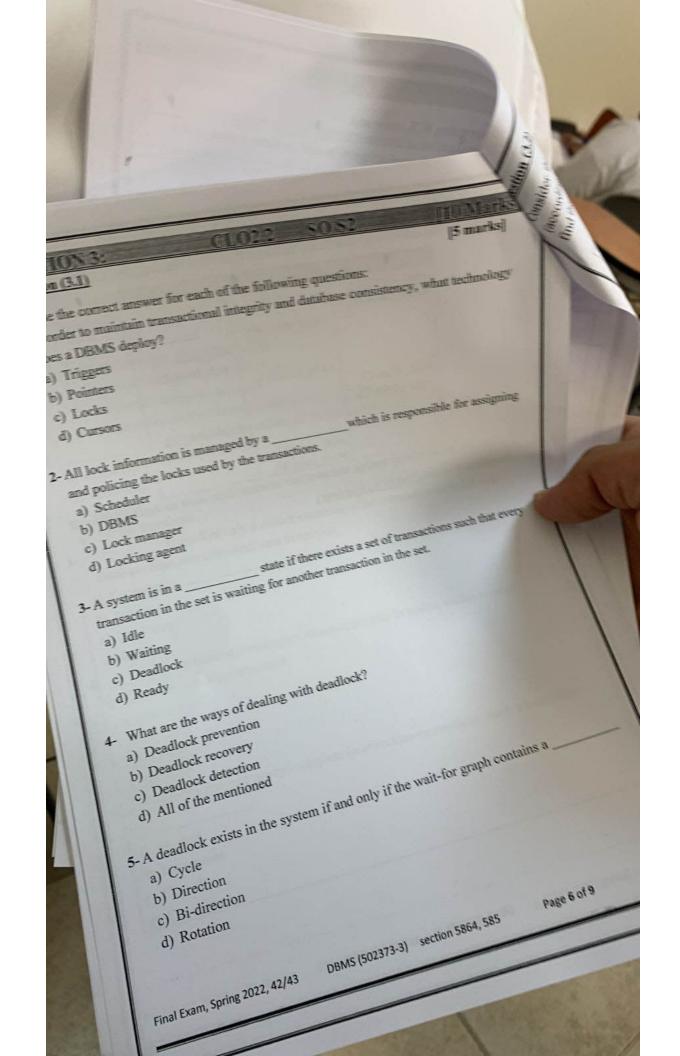
QUESTION 2: CLO1.3 Question (2.1) SO K1

Ch	A transaction is delimited by statements (or function cal	le
		-
	a) Begin transaction and end transaction	
	b) Start transaction and stop transaction	
	c) Get transaction and post transaction	
	d) Read transaction and write transaction	
2-	Identity the characteristics of transactions	
	a) Atomicity	
	b) Durability	
	c) Isolation	
•	d) All the mentioned	
3	states that only a correct execution of the transaction must	-
	database from one consistent state to another.	
	a) Consistency b) Atomicity	
	c) Durability	
	d) Isolation	
4	that a transaction should not make its undate visible to	(
	transactions until it is committed.	
	a) Consistency	
	b) Atomicity	
	c) Durability	
	D. T. Jation	
_	A transaction may not always complete its execution successfully. Such	8
J-		
	is	
	a) Aborted	
	b) Terminated	
	c) Closed	
	d) Committed	

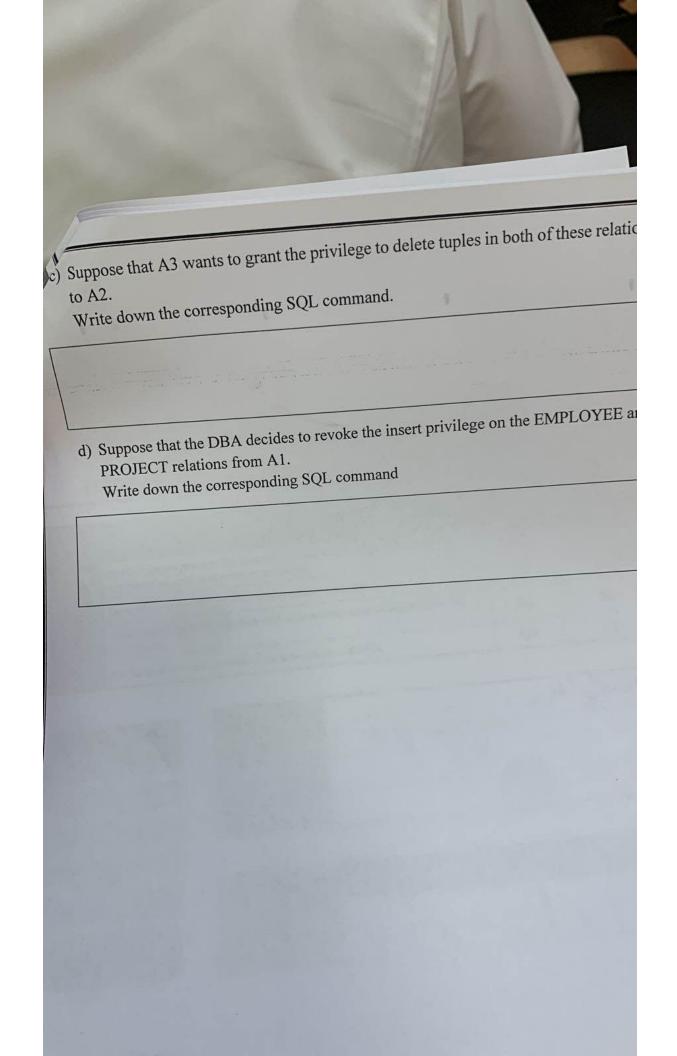


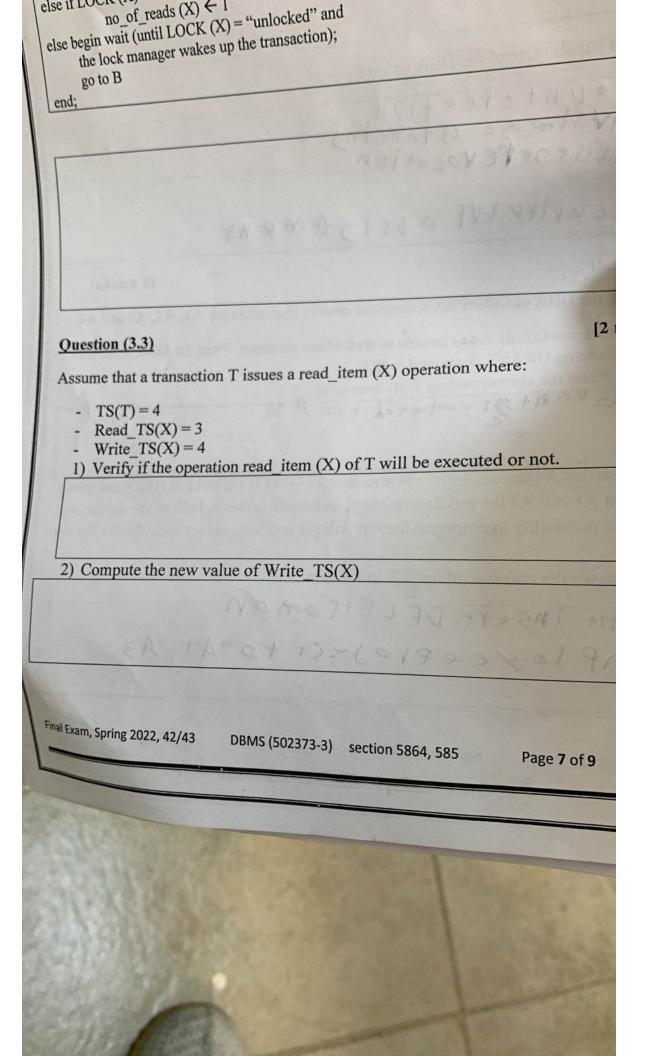
QUESTION 3: Question (3.1)

Choose the correct answer for each of the following questions:

- 1-In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?
 - a) Triggers
 - b) Pointers
 - c) Locks
 - d) Cursors
- which is responsible for assigning 2- All lock information is managed by a __ and policing the locks used by the transactions.
 - a) Scheduler
 - b) DBMS
 - c) Lock manager
 - d) Locking agent
- state if there exists a set of transactions such that every 3- A system is in a transaction in the set is waiting for another transaction in the set.
 - a) Idle
 - b) Waiting
 - c) Deadlock
 - d) Ready
- 4- What are the ways of dealing with deadlock?
 - a) Deadlock prevention
 - b) Deadlock recovery
 - c) Deadlock detection
 - d) All of the mentioned
- 5- A deadlock exists in the system if and only if the wait-for graph contains a
 - a) Cycle
 - b) Direction
 - c) Bi-direction
 - d) Rotation

Vhatagai	ON 4: CLO3.1 SO CI [2 marks] Stion (4.1) It are the four types of countermeasures to be implemented to protect the database and threats (such as: loss of integrity, loss of availability,)?
(d	List four capabilities of the DBA account:
	Question (4.2) Suppose that the DBA of COMPANY database creates four accounts A1, A2, A3 and A4. a) The DBA wants only A4 to be able to create base relations. Then the DBA must issue the following GRANT command in SQL. Write down the corresponding SQL command.
	b) Suppose that A4 creates the two base relations EMPLOYEE and PROJECT and wants to grant A1 and A3 the privilege to insert and delete tuples in both of these relations with the possibility to propagate these privileges to additional accounts for A1 but no for A3 Write down the corresponding SQL command.
	,





(according to the following pseudo-code. It is supposed to describe the real lock operation of the these errors and correct them.

if LOCK (X) = "unlocked" then begin LOCK (X) ← "read-locked";
else if LOCK (X) ← "read-locked" then no_of_reads (X) ← 1
else begin wait (until LOCK (X) = "unlocked" and the lock manager wakes up the transaction);
go to B
end;

estion (3.2)

Consider the following pseudo-code. It is supposed to describe the re (according to the Two-Phase Locking Techniques). However, there are so find these errors and correct them.