MCQ on DBMS

1	Acknowledge that	Tables(Y)			
		Fields(N)			
		Records(N)			
		Keys(N)			
2	Determine the phr	Attribute(N)			
		Tuple(Y)			
		Field(N)			
		Instance(N)			
3	Determine the ER	Entity Row(N)			
		Entity Relationship(Y)			
		Entity Rename(N)			
		Entity Relation(N)			
4	Which of the follov	Name(N)			
		Street(N)			
		ID(Y)			

		Department(N)			
5	Which of the follov	Object of Relation(N)			
		Model of Relation(N)			
		Present Working Model(N)			
		Thing in Real World(Y)			
6	Determine the lang	Query(Y)			
		Assembly(N)			
		Structural(N)			
		Compiler(N)			
7	Which of the follov	Phone Number(Y)			
		Name(N)			
		Date- of- Birth(N)			
		All of these(N)			
8	Which of the follov	NA(N)			
		Zero(N)			

		NULL(Y)			
		Blank Space(N)			
9	Determine that the	Domain(Y)			
		Relation(N)			
		Set(N)			
		Schema(N)			
10	List the descriptive	Entity(N)			
		Attribute(Y)			
		Relation(N)			
		Model(N)			
11	Determine the rela	Natural Join(N)			
		Assignment(N)			
		Set Intersection(N)			
		None of these(Y)			

12	Determine which jo	Left Outer Join(N)			
		Right Outer Join(N)			
		Inner Join(Y)			
		Natural Join(N)			
13	Determine which o	&(Y)			
		%(N)			
		||(N)			
		None of these(N)			
14	Select the option th	Function(N)			
		View(Y)			
		Procedure(N)			
		None of these(N)			
15	Choose the option	Union(N)			
		Set Difference(Y)			
		Projection(N)			

		Intersection(N)			
16	Which statement d	Select * from emp where emp-id=102;(N)			
		Select emp-id from emp where emp-id=106;(N)			
		Select emp-id from emp;(N)			
		Select emp-id where emp-id=109 and firstname=Brayen;(Y)			
17	What is the equiva	Union(N)			
		Intersection(N)			
		Set Difference(N)			
		Cartesian Product(Y)			
18	What is the main o	Data Storage(N)			
		Data Retrieval(Y)			
		Data Modelling(N)			
		Data Security(N)			
19	What is an exampl	Join(N)			
		Project(Y)			

		Union(N)			
		Intersection(N)			
20	Which statement a	It combines all possible combinations of tuples(N)			
		It includes only matching tuples from both relations(N)			
		It excludes matching tuples from both relations(N)			
		It is based on the equality of values in specified columns(Y)			
21	What is an exampl	Project(N)			
		Select(N)			
		Union(N)			
		Join(Y)			
22	In which normal fo	First(Y)			
		Second(N)			
		Third(N)			
		Fourth(N)			

23	What is a database	Functional Dependency(N)			
		Normalization(Y)			
		Database Modelling(N)			
		Decomposition(N)			
24	In which normal fo	First Normal Form(1NF)(N)			
		Second Normal Form(2NF)(N)			
		Third Normal Form(3NF)(N)			
		Boyce codd Normal Form(BCNF)(Y)			
25	What are the true :	BCNF is stricter than 3NF(N)			
		3NF removes transitive Dependency(N)			
		2NF removes partial dependency(N)			
		All of these(Y)			
26	What role does Ca	Define data types(N)			
		Specify Data constraints(N)			
		Describe Relationship Constraints(N)			

		The number of occurances(Y)			
27	Which normal forn	1NF(N)			
		2NF(N)			
		3NF(Y)			
		4NF(N)			
28	What is a drawbacl	Difficult to implement(N)			
		Limited support for complex relationship(Y)			
		High redundancy(N)			
		Poor performane in large databases(N)			
29	What is the purpos	It is used to establish relationships between tables(Y)			
		It is a primary key of another table(N)			
		It is used for indexing(N)			
		It is a unique identifier for a record(N)			
30	Among the options	Hierarchical model(N)			
		Relational model(N)			

		Logical model(Y)			
		Physical model(N)			
31	What is the operat	Union(Y)			
		Intersection(N)			
		Set difference(N)			
		Cross product(N)			
32	In Relational Algeb	The set of all tuples t that satisfy predicate P(Y)			
		The projection of tuples t based on predicate P(N)			
		The Cartesian product of tuples t and predicate P(N)			
		The union of tuples t and predicate P(N)			
33	What does the nat	All combinations of tuples from both relations(N)			
		Tuples with matching attribute values(Y)			
		Tuples with non-matching attribute values(N)			
		All tuples from the first relation(N)			

34	What role do unive	To specify conditions for some tuples(N)			
		To specify conditions for all tuples(Y)			
		To exclude certain tuples(N)			
		To rename attributes(N)			
35	What is a true stat	A relationship between tables(N)			
		The reliability of one piece of data on another(Y)			
		Data stored in multiple locations(N)			
		The size of the database(N)			
36	What is a true stat	A key with multiple attributes(Y)			
		A Primary Key(N)			
		A foreign key(N)			
		A key without dependencies(N)			
37	Which one among	Reflexivity Rule(N)			
		Transitivity Rule(N)			
		Pseudo-transitivity Rule(Y)			

		Augmentation Rule(N)			
38	Which normal form	1NF(Y)			
		2NF(N)			
		3NF(N)			
		BCNF(N)			
39	What kind of join c	Inner Join(N)			
		Left Join(Y)			
		Full Outer Join(N)			
		Right Join(N)			
40	When are two SQL	If they produce same result set(Y)			
		If they have same execution time(N)			
		If they have same number of tables joined(N)			
		If they have same number of rows in the WHERE clause(N)			
41	What is the purpos	Query Optimization(Y)			
		Normalization(N)			

		Dependency Inference(N)			
		Indexing(N)			
42	What concept is im	No data loss during updates(N)			
		No data loss during joins(Y)			
		No data loss during deletions(N)			
		No data loss during insertions(N)			
43	Provide an exampl	SELECT * FROM table1(N)			
		SELECT column1 FROM table1(N)			
		SELECT column2 FROM table2(N)			
		All of these(Y)			
44	Which normal form	2NF(N)			
		3NF(N)			
		BCNF(Y)			
		4NF(N)			

45	What type of depe	Functional Dependency(N)			
		Multivalued Dependency(Y)			
		Transitive Dependency(N)			
		Join dependency(N)			
46	Identify the main r	Improve data security(N)			
		Enhance data integrity(N)			
		Accelerate data retrieval(Y)			
		Reduce storage space(N)			
47	Specify the commo	Stacks(N)			
		Arrays(N)			
		Queues(N)			
		B-Trees(Y)			
48	Select the option a	Sort data(N)			
		Retrieve data quickly(Y)			
		Create a backup of data(N)			

		Encrypt data(N)			
49	Choose the accurat	A database error(N)			
		A situation where two different keys hash to the same location(Y)			
		A data inconsistency(N)			
		A security Breach(N)			
50	Determine the pur	To enforce data integrity(N)			
		To provide a unique identifier for each record(N)			
		To speed up the retrieval of records(Y)			
		To create a backup of the database(N)			
51	Choose the correct	It is created automatically by the DBMS.(N)			
		It is always a clustered index.(N)			
		It is used to speed up the retrieval of records based on a non-primary key.(Y)			
		It cannot be created after the creation of the table.(N)			
52	Choose the correct	To sort data(N)			
		To encrypt data(N)			

		To generate a unique identifier for each record(N)			
		To map keys to hash codes for storage and retrieval(Y)			
53	Choose the correct	Collisions are frequent.(N)			
		It always produces unique hash codes(N)			
		It is sensitive to changes in the input data.(Y)			
		It is complex and difficult to understand.(N)			
54	Identify the disadv	Inefficient for range queries(N)			
		High insertion and deletion costs(Y)			
		Limited support for ad-hoc queries(N)			
		Requires a separate storage space for keys(N)			
55	Specify the commo	SQL(Y)			
		PL/SQL(N)			
		T-SQL(N)			
		NoSQL(N)			

56	Identify the primar	SQL(N)			
		PL/SQL(Y)			
		T-SQL(N)			
		MongoDB Query Language(N)			
57	Name an open-sou	Oracle Database(N)			
		Microsoft SQL Serve(N)			
		PostgreSQL(Y)			
		IBM Db2(N)			
58	In query processing	Parsing(Y)			
		Optimization(N)			
		Execution(N)			
		Compilation(N)			
59	Specify the compo	Query Optimizer(Y)			
		Query Parser(N)			
		Query Executor(N)			

		Query Planner(N)			
60	In query optimizati	Minimize the query response time(Y)			
		Maximize the storage space(N)			
		Minimize the database size(N)			
		Maximize the number of concurrent users(N)			
61	______is a common	Indexing(N)			
		Normalization(N)			
		Denormalization(N)			
		All of the above(Y)			
62	Identify the comm	Oracle Database(N)			
		Microsoft SQL Server(Y)			
		MySQL(N)			
		SQLite(N)			
63	Name an open-sou	MySQL(Y)			
		PostgreSQL(N)			

		MongoDB(N)			
		Cassandra(N)			
64	________join is gen	Nested Loop Join(N)			
		Hash Join(Y)			
		Merge Join(N)			
		Cross Join(N)			
65	Define the concept	Pushing down join operations in the query plan(N)			
		Pushing down filter conditions in the query plan(Y)			
		Pushing down aggregate functions in the query plan(N)			
		Pushing down sort operations in the query plan(N)			
66	Specify the primary	To transform a query into an optimized execution plan(N)			
		To validate the syntax of the query(N)			
		To execute the query and retrieve the results(Y)			
		To analyze the query for potential optimizations(N)			

67	Explain the concep	Selecting the best index for a given query to improve performance(Y)			
		Selecting the most recent index created in the database(N)			
		Selecting all available indexes for a query(N)			
		Selecting the index with the lowest cardinality(N)			
68	_____algorithm is co	Nested Loop Join(N)			
		Bubble Sort Join(N)			
		Merge Join(Y)			
		Quick Sort Join(N)			
69	Define the term "co	Optimizing queries based on estimated resource usage(Y)			
		Optimizing queries based on user preferences(N)			
		Optimizing queries without considering resource usage(N)			
		Optimizing queries based on historical data(N)			
70	DBMS use during q	Query Parsing(N)			
		Query Rewriting(N)			
		Query Execution Plan Generation(Y)			

		Query Compilation(N)			
71	Determine the min	1(N)			
		2(N)			
		3(Y)			
		4(N)			
72	Identify the key ch	Non-leaf nodes store data entries(N)			
		Supports duplicate keys(N)			
		Height-balanced tree(Y)			
		Suitable for in-memory storage(N)			
73	Choose the storage	B-Tree(N)			
		AVL Tree(N)			
		Hash Table(N)			
		Linked List(Y)			
74	Provide the maxim	Non-leaf nodes store data entries(N)			
		n-1(Y)			

		2n(N)			
		2n-1(N)			
75	Identify the proper	Height-balance(Y)			
		Duplicate keys allowed(N)			
		Data entries in non-leaf nodes(N)			
		Leaf nodes at the same level(N)			
76	Identify the storag	B-Tree(Y)			
		AVL Tree(N)			
		Hash Table(N)			
		Heap(N)			
77	In a B-Tree, indicat	Node splits into two(Y)			
		Node merges with a sibling node(N)			
		Key is inserted in the parent node(N)			
		Key is discarded(N)			

78	In a B+ Tree, the po	Non-leaf nodes(N)			
		Root node(N)			
		Leaf nodes(Y)			
		ntermediate nodes(N)			
79	Choose the storage	B-Tree(Y)			
		AVL Tree(N)			
		Red-Black Tree(N)			
		Heap(N)			
80	Choose the operati	Insertion(Y)			
		Deletion(N)			
		Range searching(N)			
		Point query(N)			
81	Select the most off	n(Y)			
		n-1(N)			
		2n(N)			

		2n-1(N)			
82	State the operatior	Traversing in pre-order(N)			
		Finding maximum element(N)			
		Finding median(N)			
		Range searching(Y)			
83	Choose the kinds o	Point queries(Y)			
		Range queries(N)			
		Joins(N)			
		Sorting(N)			
84	Typically, data entr	Non-leaf nodes(N)			
		Leaf nodes(Y)			
		Root node(N)			
		Intermediate nodes(N)			
85	Describe the main	Less disk space usage(N)			
		Faster insertion and deletion(N)			

		Efficient for range queries(Y)			
		Lower height of the tree(N)			
86	Determine the mos	Serializability(Y)			
		Encryption(N)			
		Redundancy(N)			
		Compression(N)			
87	serializability in tra	Ability to execute transactions in a serialized manner(Y)			
		Ability to execute transactions concurrently(N)			
		Ability to recover from failures(N)			
		Ability to encrypt transactions(N)			
88	Indicate the purpo	Maximize throughput(N)			
		Minimize latency(N)			
		Ensure serializability while maximizing concurrency(Y)			
		Maximize encryption(N)			

89	Which of the follov	Ability to encrypt transactions for secure processing(N)			
		Ability to process transactions in a way that the result is the same as if they wer			
		Ability to process transactions without any encryption(N)			
		Ability to process transactions concurrently with no restrictions(N)			
90	Select the purpose	To enforce serial execution of transactions(N)			
		To allow maximum concurrency while ensuring data consistency(Y)			
		To minimize encryption overhead(N)			
		o prevent transactions from executing concurrently(N)			
91	In transaction man	A set of instructions for encryption(Y)			
		A sequence of operations from transactions(N)			
		A set of transactions executing concurrently(N)			
		A schedule has no relevance in transaction management(N)			
92	_______properties (	Recoverability(N)			
		Consistency(N)			
		Atomicity(N)			

		Conflict Serializability(Y)			
93	In a transaction ma	Operations that do not affect the database(N)			
		Operations that can be executed in any order(N)			
		Operations that operate on different data items and overlap in time(Y)			
		Operations that execute sequentially(N)			
94	Choose the metho	Lock-based concurrency control(Y)			
		Encryption-based concurrency control(N)			
		Compression-based concurrency control(N)			
		Recovery-based concurrency control(N)			
95	Choose the benefit	Reduced encryption overhead(N)			
		Increased throughput(N)			
		Lower latency(N)			
		Enhanced security(Y)			
96	Declare that the co	Two-phase locking(N)			
		Strict two-phase locking(N)			

		Optimistic concurrency control(Y)			
		Serializable snapshot isolation(N)			
97	A transaction in a d	Indivisible(Y)			
		Reversible(N)			
		Concurrent(N)			
		Synchronous(N)			
98	Determine the poli	Strict two-phase locking(N)			
		Conservative two-phase locking(N)			
		Rigorous two-phase locking(N)			
		Optimistic concurrency control(Y)			
99	What feature of rig	Locks are acquired and released in two phases(N)			
		Locks can be acquired and released at any time(N)			
		Transactions can acquire both read and write locks simultaneously(N)			
		Transactions release all locks only after they commit(Y)			

100	A schedule is consi	Transactions are executed in any order(N)			
		All transactions commit successfully(N)			
		After a transaction commits, it is still possible to recover to a consistent state(Y)			
		Transactions do not interfere with each other(N)			
101	______ensures that	Atomicity(Y)			
		Consistency(N)			
		Durability(N)			
		Isolation(N)			
102	A schedule that is c	Serializability without any conflicts(N)			
		The absence of deadlocks(N)			
		Consistency but not isolation(N)			
		Serializability equivalent to a serial schedule(Y)			
103	If two transactions	Executed in any order(Y)			
		Executed sequentially only(N)			
		Executed in parallel only(N)			

		Executed with a shared lock(N)			
104	Other transactions	Shared lock(Y)			
		Exclusive lock(N)			
		Read lock(N)			
		Write lock(N)			
105	Write the drawbac	Deadlocks can occur(N)			
		It is too strict and reduces concurrency(Y)			
		It requires additional storage(N)			
		It does not ensure data consistency(N)			
106	When transactions	Strict schedule(N)			
		Serial schedule(Y)			
		Timestamp schedule(N)			
		Conservative schedule(N)			
107	______concurrency	Two-phase locking(N)			
		Optimistic concurrency control(Y)			

		Strict two-phase locking(N)			
		Serializable snapshot isolation(N)			
108	A transaction goes	Growing phase and shrinking phase(Y)			
		Read phase and write phase(N)			
		Locking phase and unlocking phase(N)			
		Begin phase and end phase(N)			
109	Iidentify the confli	A situation where two transactions try to access the same data item(Y)			
		A situation where a transaction is aborted(N)			
		A situation where a transaction is committed(N)			
		A situation where a transaction is rolled back(N)			
110	_______is a conflict	A schedule that preserves the order of transactions(N)			
		A schedule that does not have any conflicting operations(N)			
		A schedule that is free from deadlocks(N)			
		A schedule that is equivalent to some serial schedule(Y)			

111	A serializable sched	Concurrently(N)
		Sequentially(Y)
		Randomly(N)
		Asynchronously(N)
112	Determine whatev	Consistency(N)Isolation(N)Durability(Y)Atomicity(N)
113	Choose the databa	Relational(N)To improve data retrieval performance(N)Time-series(Y)Document
114	Select the characte	Optimized for analytics and data warehousing(Y)Optimized for transactional pro
115	MVCC stand for in	Multi-Version Concurrency Control(Y)Multi-View Concurrency Control(N)Multi-V
116	Identify the comm	Improving query performance(Y)Reducing data redundancy(N)Simplifying data
117	Write the purpose	To minimize data redundancy and dependency(Y)To improve data retrieval perf
118	Determine the data	Graph(Y)Relational(N)Hierarchical(N)Key-Value(N)
119	CRUD stand for in t	Create, Read, Update, Delete(Y)Compute, Read, Update, Delete(N)Create, Retri
120	Examine the datab	Hierarchical(Y)Relational(N)Graph(N)Document-oriented(N)
121	_______is an advan	Data consistency and integrity(Y)Easy scalability(N)Handling of unstructured dat
122	the purpose of a da	To speed up data retrieval(Y)To store large amounts of data(N)To ensure data c
123	Identify which of th	Select(N)Insert(N)Create(Y)Update(N)
124	Identify primary fu	Retrieving data from the database(N)Modifying data in the database(N)Defining
125	Identify which of th	Internal schema(N)Conceptual schema(N)Physical schema(N)External schema(Y
126	State When a data	Consistent state(N)Parallel state(N)Durable state(N)Inconsistent state(Y)
127	Choose what is the	Recovery-management component of the DBMS(N)Concurrency-control compo
128	State that what typ	Begin transaction and end transaction(Y)Start transaction and stop transaction(
129	Identify what state	Consistency(Y)Durability(N)Isolation(N)All of the mentioned(N)
130	Identify which of th	Checkpoints(Y)Indices(N)Deadlocks(N)Locks(N)
131	Indicate that how t	Read-only graph(Y)Wait graph(N)Wait-for graph(N)All of the mentioned((N)
132	State that what do	Cycle(Y)Direction(N)Bi-direction(N)Rotation(N)
133	Identify the main o	To restrict access to authorized users(Y)To maximize database performance(N)T
134	Choose the critical	Data storage capacity(N)Data encryption(Y)Data redundancy(N)Data indexing(N
135	_________data enc	Improved performance(N)Data integrity(N)Data confidentiality(Y)Data availabili
136	Determine the ben	Enhanced performance(N)Increased data redundancy(N)Improved data integrit
137	Choose an example	Multi-factor authentication(Y)Data replication(N)Data archiving(N)Data normali
138	Indicate what does	Enhanced data redundancy(N)Improved data availability(N)Monitoring and acco
139	Identify the compo	Firewalls(Y)Indexes(N)Triggers(N)Hash functions(N)
140	Ascertain the objec	Enhanced performance(N)Improved data redundancy(N)Mitigation of vulnerabi
141	Select the benefit o	Simplifies user authentication(N)Increases data redundancy(N)Enhances data av
142	In a database secur	Improved data availability(N)Increased data redundancy(N)Protection of sensiti
143	Determine the prin	To identify performance bottlenecks(Y)To review and evaluate security measure

144	Select the encrypti	Symmetric encryption(Y)Asymmetric encryption(N)Hybrid encryption(N)One-tir
145	Find out what actio	Implementing strong authentication mechanisms(N)Applying input validation ar
146	Determine the prin	Maximizing data redundancy(N)Ensuring data confidentiality(N)Minimizing dow
147	In the context of da	Providing all users with maximum access rights(N)Providing users with the least
148	State the advantag	Enhanced data redundancy(N)Improved data availability(N)Mitigation of unauth
149	Identify the role do	Enhancing data integrity(N)Improving data availability(N)Protecting sensitive inf
150	Select the encrypti	Symmetric encryption(N)Asymmetric encryption(Y)Hybrid encryption(N)One-tir
151	Select the strategy	Implementing data validation checks(Y)Increasing data redundancy(N)Optimizir
152	Establish in a datab	Enhancing data redundancy(N)Monitoring and detecting potential unauthorized

re executed in some sequential order(Y)

)

t-oriented(N)
ocessing(N)Uses a hierarchical data model(N)Supports flexible schemas(N)
Value Concurrency Control(N)Multi-Vendor Concurrency Control(N)
retrieval(N)Enhancing data consistency(N)
formance(N)To enhance data durability(N)To increase data redundancy(N)

ieve, Update, Display(N)Compute, Retrieve, Update, Delete(N)

ta(N)High performance(N)
consistency(N)To handle concurrent transactions(N)

g the structure of the database(Y)Sorting data in the database(N)
Y)

onent of the DBMS(Y)Transaction-management component of the DBMS(N)Buffer management component in
(N)Get transaction and post transaction(N)Read transaction and write transaction(N)

To reduce storage costs(N)To increase database size(N)
N)
ity(N)
cy(N)Restriction of unauthorized access(Y)
ization(N)
ountability(Y)Increased data integrity(N)

ilities(Y)Data encryption(N)
vailability(N)Streamlines access management(Y)
ive information(Y)Enhanced database performance(N)
es(N)To optimize data storage(N)To enhance data redundancy(N)

me pad encryption(N)
nd parameterized queries(Y)Increasing data redundancy(N)Encrypting all database contents(N)
vntime and data loss(Y)Enhancing data availability(N)
t possible access rights necessary for their job functions(Y)Increasing data redundancy(N)Encrypting all databa
horized access(Y)Increased data encryption(N)
formation by disguising original data(Y)Increasing data redundancy(N)
me pad encryption(N)
ng database performance(N)Data obfuscation(N)
d access or attacks(Y)Improving data availability(N)Increasing data encryption(N)

DBMS(N)

se contents(N)

Sr.	Short/Long questions
1	Define Data Integrity and elucidate its importance within a database management system.
2	Explain the hierarchical data model and provide an illustrative example depicting its representation of relationships in a real-life scenario.
3	Define the relational model and exemplify how this model structures a table.
4	Develop a basic Entity-Relationship Diagram (ERD) for a library system, identifying entities, attributes, relationships, and explain its constituent
5	Describe the network data model, highlighting its advantages and disadvantages in comparison to the hierarchical and relational models.
6	Highlight the fundamental distinctions between SQL and NoSQL databases, emphasizing their respective query languages.
7	Explain the purpose and syntax of the SELECT statement in SQL, emphasizing its role in data retrieval.
8	Discuss query processing within a DBMS, outlining its primary stages.
9	Discuss the significance of query parsing and optimization in enhancing database performance during query processing.
10	Explain the importance of query optimization in improving overall database performance.
11	Compare and contrast open-source and commercial DBMS, emphasizing differences in licensing, support, and cost.
12	Discuss a major advantage and limitation of using open-source DBMS in comparison to commercial alternatives.
13	Compare various query languages used in databases.
14	Explain key components of query optimization briefly.
15	Define relational algebra and relational calculus.
16	Differentiate between various types of relational calculus.
17	Explain Armstrong's Axioms.
18	Describe B-Tree concerning Database Management Systems.
19	Explain how a B-Tree manages insertions and deletions while maintaining balance.
20	Illustrate how a B-Tree facilitates efficient search operations.
21	Explain the storage policy of a B+ Tree concerning duplicate keys.
22	Compare the storage efficiency of a B-Tree and a linked list for sorted data.
23	Highlight the primary advantage of using B-Trees in database systems.
24	Establish the main benefit of employing B-Trees in database systems with diverse data access patterns.
25	Explain how a B+ Tree manages duplicate keys within its storage structure.
26	Assess the primary advantage of implementing B-Trees in database systems that encounter diverse data access patterns.
27	Define the concept of a Transaction within the framework of a database management system.
28	Detail the structure of a Schedule in Transaction Processing.
29	Elaborate on serializability in the realm of transaction processing.
30	Clarify the notion of a conflicting operation within a transaction schedule.
31	Define and discuss a serial schedule, elucidating its relevance in transaction processing.
32	Describe a serializable schedule and justify its significance in database systems.

33 Explain the construction and utilization of a precedence graph for schedule analysis.
34 Define the concept of a conflict-serializable schedule.
35 Analyze the contribution of the Two-Phase Locking (2PL) protocol to concurrency control.
36 Elaborate on the concept of a dirty read in transactions.
37 Describe the ACID properties and emphasize their importance in transaction processing.
38 Elucidate the purpose of a security policy in database design.
39 Explain the principle of least privilege and how it enhances database security.
40 Detail how a database firewall reinforces security policy enforcement.
41 Describe the role of Database Encryption Key Management in implementing security policies.
42 Illustrate Database Clustering and its role in ensuring high availability within security policies.
43 Explain NoSQL databases and highlight their differences from traditional relational databases.
44 Define blockchain technology and its potential impact on database design.
45 Evaluate the purpose of graph databases and identify scenarios where they prove beneficial.
46 Explain the significance of Secure Socket Layer (SSL) in enhancing database security.
47 Elaborate on the concept of data integrity within a security policy.
48 Develop a simple Entity-Relationship Diagram (ERD) for a library system, highlighting entities, attributes, relationships, and their components.
49 Discuss the significance of each element in ensuring data integrity and effective database design.
50 Explain various aspects of data definition in Database Management Systems, including data types, constraints, attributes, and keys, providing e
51 Explain the concept of data independence within a database system.
52 Compare and contrast SQL and NoSQL languages using examples.
53 Delve into the realm of query optimization.
54 Evaluate the techniques employed for optimizing the execution plan of queries.

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examples for each aspect.