_ Date:
Tashfeen Data Base, 22:-2041 Date:
> Drawbacks of file System
Odata redundancy and data inconsistency
ex has juddith
date thee they walked along
jagoch pr. ha aur 2nd ki na kro
• 5
2 Difficulty in accessing data grand and remporer aga tou ni hogs.
(2) Difficulty in accessing data of pr agr zaida complex
aga 100 ni h> gs.
O a lede what he convicted or kent
3 Data Isolation -> data might be separated or kept
apart from each other.
(4) Integrity problems - Ofke 1 mg 1 constants by es. Jek
din ma 2 transactions KV Sktey. Ya
database me easy hte.
(5) Atomscity problem > any operation either happens completely
Transferring money, tout money cut
6 Concurrent Access Anomalies > ex ya bhost zariala long.  process and same time.
process data at same time.
(7) Secursty problem
(1) SEESVITY (TIBLEM
=> 1 and Over only
=> Acid Property
Atmocity
Consistency
[Solation (
Durability (data Changes are sately slored
Consistency  [Solation (Ksi Avenuection Ki wajah sa dsvi khareb na he)  [Solation (Ksi Avenuection Ki wajah sa dsvi khareb na he)  Duvability (data Changes are safely stored  and will not be four even if there  is gonce orlage.
. S former orlage
Ţ

schema > 1000 how OLAP - used for analyzing and represented data in verlatime. Date: \_ Non- relational or **\*** => TYPES OF DATA. NOSQL MANISON Unstructured Structured Semi- Structured · Organized to some · Not Storrd · Hell organized in data base · often contains extent numbers 416//d/Kodep Examples emails. Exempless + text, audio files, · name, dates, addresses, execut cord me video files, face best ATM, Phonebook custo mey 0 Yaviews. => TYPES of parabases Nosqu ( not only 5 SQL (Strudured quivy used for bog data · Sal are structured · Schema-less -KYVKKK KRY2 data base · Tabular format Not easily scalable Lecture :3 bam1 cuv redundancy, in consistency -> Agy 1 dollyway hoo Zaida ho tou phy DBMS bana Seo. Abstraction Fiend Views Viewy View of data/ Data 1111 . Phy sical Dove How data (togical) Conceptual level Conceptual level View sevel. Physical level internal. schema

ER Diagram Date:\_ Entity set **>** Atty: butes · - Descriptiva attibute) attribute -> if relationship by Identifying Relation Dienal sa relationship foir both hy Derived hink Mandatory Onk Mandatory men < optional Attibutes o- simple = attailbute → can not · - Composite attribute of more than (-Kilno) simple attribute. single - Value attribute -> only attribute . (= Multi-valued attibute Perived attributes Kri ki base Pr dirag ko derivel. DOB -> of some land harman har har att x i b u te · underline key attribute. , (EUL)

Date:	
=> Physical level Internal level	
- How data actually street (coding)	1
=> Conceptual / Schema / Logical level	-6
o- What data is street in database & min language	ورم
- ER diagram	8
3- Only part of database can be viewed.	•
=> External level   subschema   View Devel  - anly part of database can be viewed.  - Patabase has many views.	6
e.g., External view 2	_6
•	-
Conceptual  Revel No none more DoB Salary	-
level No none mane DOB Sciency	
DATA MODELS (class diassem)	
DATA MODELS  - Data model operations delete, update)  - Data model operations (delete, update)  - User defined operation (cgpa, marks)  -> Conceptional data models [high-level   semantic   Entity]	
· vier defined operation (cgpa, marks)	
Concepts that are close to user to perceive	_
· Concepts that are close to many user to perceive	-
C) = e = ,	-
-> Physical data models thow-level   internal how data is streed.	
how data is street.	(
	•
=> Implementation data models representation	
falls blow above 2	_
· · · · · · · · · · · · · · · · · · ·	
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## Constraint => restriction on the data (helps in data ) Data Model TYPES OF Object based -> describe data at conceptual and view levels. · ER model. -- Record based logical model -> 1818UNAN · Relational model Hierachical model Network model. - Physical data model - howest data of abstraction Types of entities - Tongible -> physical occurrence e.j., presson, product. ·- In-Tangable > no physical occurrence e.j., Breeze RELATION SHIPS one - to-many associated with exactly one record in another many . to many o - one - to- one => Schema · - complete decigns of database also colled as intension H Mandavigy Database State o- database at particular moment o- also called as extension

Degree of Relationships  - Unacy One conting Property Property of Property	E-R model p	•
- Unary one entity  relationship blue a entities of some type  resurvisive we retained for the entity)  - Binary (two entity)  - Ternary (three entity)  - M:N relationship (many to many)  - Mult be avoided ble they level to data redunctancies  - Can be implemented by breaking up to produce  - a get of 13M relationship.  - Auxil by creating (compasite ex bridge entity)  - Relation ships Constraits  - Candina lity Ratio - mex number of relationships  - Isl - Min - Min  - Participation (constraints)  - Participation (constraints)  - Total participation - if every entity  - represented by double line at lettle and relationships	$\mathcal{O}$	
(e) entire the description of some type  *- Binary (two entity)  Tev many (three Entity)  M: N velationships (many to many)  Null be avoided ble they lead to date vedundancies  Can be implemented by byeaking up to produce  a set of 13M velationship.  Auxil by creating (ampasite av bridge entity)  Relation ships Constraits  Cardina lity Ratio > emex number of relationships instances that an entity  participation (ons typints)  Participation Constraints  Participation Constraints  Participation Portion Portion participates in a client and constraints  Total participation participates in attentionships  **Total participation participates and constraints are constraints.	=> Degree of Relationships	
Binary (two entity)  Ternary (three ratity)  Total participation defined by breaking of participates in attents and restorating composites and restorating composites are bridge entity.  Total participation defined and restorating participation of the participation of	elationship blu a entities of sometype	supervises
M: N relationships (many to many)  Null be avoided ble they lead to data redundancies  Can be implemented by breaking up to produce  a get of 13M relationship.  Avoid by creating compaste on bridge entity.  Relation ships Constraits  Cardina lity Ratio > emex number of relationships instances that an entity  participate in  a 131 on 151  Participation Constraints >  Participation Positionships of relationships instances that an entity  participate in  a 131 on 151  Very resented by double. Inc. participates in attest one relationship	- Binary (+wo entity)	
M: N yelationships (many to many)  Null be avoided ble they lead to data redundancies  Can be implemented by breaking up to produce  a get of 13M relationship.  Auxil by creating Compasite and bridge entity.  Relation ships Constraits  Cardinality Ratio -> emex number of relationships instances that an entity  participate in  131	Doc Doc	
• Mult be avoided bit they great to data reportants  • Can be implemented by breaking up to produce  a get of 13M relationship.  • Auxiliary (composite and bridge entity)  Relation ships (constraits)  • Condina Lity Ratio > emex number of relationships instances that an entity participate in Min entity  • Participation (constraints)  • Participation (constraints)  • Participation of the participation of the participates in attentionships  (represented by double line)  • Participates in attentionship	M: N relationships (many to many)	
Can be implemented by breaking up to produce  a get of 13M relationship.  Auxiliary Creating Comparite and bridge entity.  Relation ships Constraits  Cardinality Ratio → emex number of relationships instances that an entity participate in Mill    Olim omist   Operation participation → electronship   Operation of the comparison of	· Mult be avoided bic they lead to data redund	dancies
Relation ships Constyaits  Relation ships Constyaits  Cardina lity Ratio > emax number of relationships instances that an entity participate in entity  O 131 O MSI  Participation Constyaints >  Total participation > effection participation > effectionships  (represented by double and participation at less one relationship	· Can be implemented by breaking up to prod.	vcc
Relation ships Constyaits  Condinality Ratio > emax number of relationships instances that an entity participate in entity of the entity of th	a set of 19M relationship.	
Relation ships Constyaits  Cardinality Ratio > emax number of relationships instances that an entity participate in  Isl entity  Participation Constyaints >  Total participation > if every entity  (represented by double line) participates in attent one relationship	· Avoid by creating composite or bridge entity	
Participation Constyaints >  Total participation > if every entity  (represented by double line) participates in at least one relationship	· Cardinality Ratio -> •max number of relations?	2, b1
Participation (constyaints >>  Total participation > if every entity  (represented by double line) participates in at least one relationship		
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vep resented by double line participates in relationship	· Participation Constyaints ->	4
re lationship		
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outiel politicipation > oif some entities  (represented by single participates.	re la tionship	7
ouvering participates.	· - Partial politicipation > if some	entities
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