Data Science Document Analysis

Comprehensive Content Summary with Custom Keywords

Executive Summary

This data science document contains 81 pages with 80 pages containing meaningful content. The analysis identified 116 keyword matches and 7 distinct content types.

Keyword Analysis

• Database: 259 mentions
• SQL: 48 mentions
• DBMS: 44 mentions
• Trigger: 21 mentions
• Views: 20 mentions
• DML: 10 mentions
• Relational Model: 9 mentions
• Data Model: 8 mentions
• Index: 8 mentions
• DDL: 6 mentions

Content Distribution

• Custom Content: 15 pages
• Data Model: 33 pages
• Examples: 2 pages
• Figures: 5 pages
• General Content: 6 pages
• Methodology: 4 pages
• Tables: 16 pages

Data & Models

Page 13 - Keywords: Database, DBMS, DDL

Database languages in **DBMS** are given as below. ■ **DDL** – Data Definition Language ■ **DML** – Data Manipulation Language ■ **DCL** – Data Control Language ■ TCL – Transaction Control Language 1.

Data Definition Language (**DDL**) **DDL** stands for data definition language and used to define **Database** patterns or structures.

Page 79 - Keywords: Database, DBMS, SQL

79 multimedia **Database** contains text, image, animation, video, audio, movie, sound etc. which is stored in binary form. • **SQL** query language is used for query and retrieval of data. • There are generally two types of multimedia databases • Linked Multimedia Databases and Embedded Multimedia Databases. • Linked multimedia databases In this **Database**, multimedia elements are organized as image, audio/ MP3, video etc.

All the data may be stored either on off-line sources (CD-ROM, Hard Disc, DVD etc.) or on Online sources.

Page 65 - Keywords: Database, Data Model, SQL

65 UNIT-III SPATIAL **Database** A spatial **Database** is a general-purpose **Database** (usually a relational **Database**) that has been enhanced to include spatial data that represents objects defined in a geometric space, along with tools for querying and analysing such data.

Geodatabase: A Geographic **Database**, sometimes known as a Geodatabase, is a Georeferenced Spatial **Database** that is used to store and modify geodata or information about a specific place on Earth.

Page 33 - Keywords: Trigger, Database, DBMS

A **Trigger** is a procedure that is automatically invoked by the **DBMS** in response to specified changes to the **Database**, and is typically specified by the DBA.

A **Trigger** description contains three parts: Event: A change to the **Database** that activates the **Trigger**.

Page 12 - Keywords: Database, DBMS, SQL

12 Transaction Manager: A transaction is a collection of operations that performs a single logical function in a **Database** application.

A very huge amount of data will be stored in the **Database** and it forms the main source for all other components to interact with each other.

Data Science Concepts

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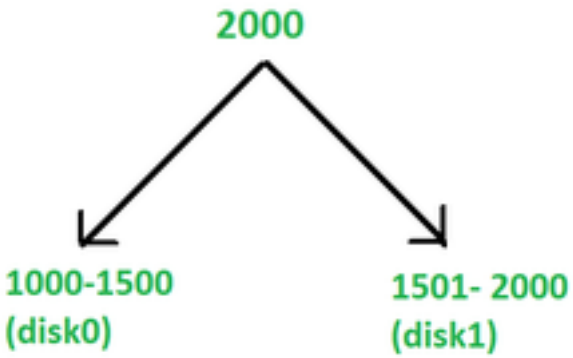
General Content

Page 50

For example, let’s assume that there are 4 disks disk1, disk2, disk3, and disk4 through which the data is to be partitioned.

Now if the Function returns 3, then the row is placed on disk3. ■ Range partitioning In range partitioning, it issues continuous attribute value ranges to each disk.

Data Science - Example



Page 48

48 (Q6) Find the average age of sailors who are of voting age (i.e., at least 18 years old) for each rating level that has at least two such sailors.

It differs from the answer to Q35 in that there is no tuple for rating 10, since there is only one tuple with rating 10 and age≥ 18.

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41 NESTED QUERIES A nested query is a querythat has another query embedded within it; the embedded query is called a subquery. (Q1) Find the names of sailors who have reserved boat 103.

SELECT S.sname FROM Sailors S WHERE S.sid IN (SELECT R.sid FROM Reserves R WHERE R.bid = 103) (Q2) Find the names of sailors who have reserved a red boat.

Page 68

68 PROPOSITIONAL CALCULUS Given two numbers, we have various ways of combining them: add them, multiply them, etc.

We can also take the negative or absolute value or square of a single number, and apply various functions to a given number.

Page 47

47 More Examples of Aggregate Queries Q3) For each red boat, find the number of reservations for this boat.

Data Tables and Analysis

Table 1: Data Science - Database Data & Dbms Data

Context: 4 DBMS File Processing System Minimal data redundancy problem in DBMS Data Redundancy problem exits Data Inconsistency does not exist Data Inconsistency exist here Accessing database is easier Accessi...

0	1
DBMS	File Processing System
Minimal data redundancy problem i...	Data Redundancy problem exits
Data Inconsistency does not exist	Data Inconsistency exist here
Accessing database is easier	Accessing is comparatively difficult
The problem of data isolation is not ...	Data is scattered in various files an...
Transactions like insert, delete, vie...	In file system, transactions are not ...
Concurrent access and recovery is po...	Concurrent access and recovery is not...
Security of data	Security of data is not good
A database manager (administrator) s...	A file manager is used to store all ...

Table 2: Data Science - Dbms Data

Context: 28 Output: Selecting Data from a view Example: Display all the title of book written by author 'Basu'.

0	1
Title	Author_name
Oracle	Arora
DBMS	Basu
DOS	Sinha
ADBMS	Basu
Unix	Kapoor

Table 3: Data Science Data Table (6x3)

Context: The concept of a relation corresponds to the programming- language notion of a variable, while the concept of a relation schema corresponds to the programming-language notion of type definition.

0	1	2

Table 4: Data Science Data Table (11x4)

Context: Figure 5.1An Instance S 3 of Sailors Figure 5.2 An Instance R2 of Reserves bid bname color 101 Interlak e blue 102 Interlake red 103 Clipper gree n 104 Marine red (Q15) Find the names and ages of all ...

0	1	2	3
Sid	sname		rating age
22	Dustin	7	45.0
29	Brutus	1	33.0
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35.0
64	Horatio 7		35.0
71	Zorba	10	16.0
74	Horatio 9		35.0
85	Art	3	25.5
95	Bob	3	63.5

Table 5: Data Science Data Table (11x3)

Context: Figure 5.1An Instance S 3 of Sailors Figure 5.2 An Instance R2 of Reserves bid bname color 101 Interlak e blue 102 Interlake red 103 Clipper gree n 104 Marine red (Q15) Find the names and ages of all ...

0	1	2
	sid bid day	
22		101 10/10/98
22		102 10/10/98
22		103 10/8/98
22		104 10/7/98
31		102 11/10/98
31		103 11/6/98
31		104 11/12/98
64	101 9/5/98	
64	102 9/8/98	
74	103 9/8/98	

Table 6: Data Science Data Table (5x3)

Context: Figure 5.1An Instance S 3 of Sailors Figure 5.2 An Instance R2 of Reserves bid bname color 101 Interlak e blue 102 Interlake red 103 Clipper gree n 104 Marine red (Q15) Find the names and ages of all ...

0	1	2
bid	bname	color
101	Interlak e	blue
102	Interlake	red
103	Clipper	gree n
104	Marine	red