مهم جداً

هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط، لأنه يحتوي
على اقل من 20٪ مما يتم شرحه في الفيديوهات
الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات
وخبرات كثيره

يجب عليك مشاهدة فيديو الدرس كاملا

لاتنسى عمل لايك ومشاركة القناة لتعم الفائدة للجميع

لا تنسونا من دعائكم

ProgrammingAdvices.com

Mohammed Abu-Hadhoud

Employees File: Redundancy Problem

ID	FirstName	LastName	Gender	Birthdate	Salary	DepID	DeptName	DeptLocation
1	Mohammed	Abu-Hadhoud	M	6/11/1977	5000	1	IT	Amman
2	Ali	Zaher	M	5/7/1990	3000	2	Finance	Amman
3	Lubna	Aqel	F	5/5/2000	500	1	IT	Amman
5	Fadi	Khalil	M	6/6/1980	1400	4	Marketing	Qatar
6	Maha	Majed	M	7/7/2001	300	3	HR	UAE
7	Omar	Ali	M	6/6/1977	2000	1	IT	Amman
8	Huda	Omar	F	4/2/1990	1000	1	IT	Amman

Duplicates Redundancy

- **More Wasted Space**
- **Data Inconsistency**
- **Data Corruption**
- **Missing/Incomplete Data**
- **Data Integrity Problems**
- **Hard to maintain**

This is call Normalization

Primary Key

Employees Table

ID 🔑	FirstName	LastName	Gender	Birthdate	Salary	DepartmentID
1	Mohammed	Abu-Hadhoud	M	6/11/1977	5000	1
2	Ali	Zaher	M	5/7/1990	3000	2
3	Lubna	Aqel	F	5/5/2000	500	1
5	Fadi	Khalil	M	6/6/1980	1400	4
6	Maha	Majed	M	7/7/2001	300	3
7	Omar	Ali	M	6/6/1977	2000	1
8	Huda	Omar	F	4/2/1990	1000	1

Foreign Key

Primary Key

Departments Table

ID 🔑	Name	Location
1	IT	Amman
2	Finance	Amman
3	HR	UAE
4	Marketing	Qatar

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26+ years of experience

Redundancy

- Redundancy <u>refers to the presence of duplicated data</u> within the database. Redundancy can occur in different ways, such as <u>storing the same information multiple times</u>, <u>or storing information that can be derived from other data in the database</u>.

- While <u>redundancy can sometimes be useful</u>, it <u>can also cause problems</u>. For example, redundant data takes up <u>additional storage space</u> and can make it <u>more difficult to maintain consistency within the database</u>. If one copy of the data is updated, the other copies may become outdated, leading to inconsistencies and errors.

- To avoid redundancy in databases, <u>normalization</u> techniques can be used to organize the data in a way that minimizes duplication.

Normalization

- Normalization <u>is the process of organizing data in a database in a way that reduces redundancy</u> and <u>improves data integrity</u>. There are several levels of normalization, also known as normal forms, each with its own set of rules.

- To avoid redundancy in databases, normalization techniques can be used to organize the data in a way that minimizes duplication.

- This <u>involves breaking down the data into smaller, more atomic pieces and linking them together through relationships</u>, which can reduce the amount of redundant data and make it easier to manage and update the database.

- Additionally, <u>enforcing data constraints</u>, such as unique keys and foreign key relationships, can help prevent redundant data from being inserted into the database.

- We will talk more about normalization in the future not now.

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Thank You

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