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MSA, PMOC, PMP®, PRINCE®, PSE-ITSM®, CS, ITIL®, MCP®, MCSD



لا تنسى الاشتراك في قناتنا على اليوتيوب ومشاركة القناة مع اصدقائك
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هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي على اقل من 20% مما يتم شرحه في الفيديوهات الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات وخبرات كثيره

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Database Level 1 SQL (Concepts & Practice)

Second Normal Form 2 NF



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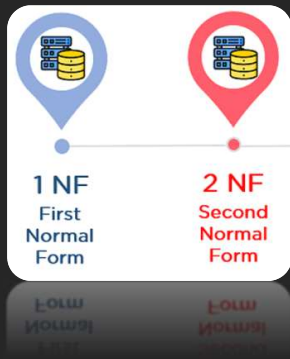
2nd Normal Form (2NF)

Second Normal Form (2NF) is a further level of database normalization that builds on the First Normal Form (1NF) rules.

It requires that each non-key column in a table be functionally dependent on the entire primary key, not just a part of it.

To satisfy the requirements of 2NF:

1. A table must first be in 1NF, and then have:
2. No partial dependencies: Each non-key column in the table must be fully dependent on the entire primary key.



For example, consider a table that contains information about courses and the students who have taken them:

Course Code	Course Name	Student ID	Student Name	Grade
101	Biology	001	John	A
101	Biology	002	Mary	B
102	Physics	001	John	C
102	Physics	003	Tom	A

In this table, the primary key is the combination of Course Code and Student ID. However, the Course Name column depends only on the Course Code, and not on the Student ID, which violates the rules of 2NF. To bring this table to 2NF, we would separate the Course Name column into a separate table:

Course Table:

Course Code	Course Name
101	Biology
102	Physics

Enrollment Table:

Course Code	Student ID	Grade
101	001	A
101	002	B
102	001	C
102	003	A

In this example, we have split the original table into two tables, each with its own primary key. The Course Table now contains only information about courses, while the Enrollment Table contains information about the students enrolled in each course. This satisfies the requirements of 2NF.



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Thank You

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