CC6001NA Advanced Database System

Assignment

2019-20 Autumn

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Project Code	Project Type	Description	Person Number	Name	Grade	Salary Scale	Date-join Project	Alloc-time
IC5001	New Dev	Develop Claims System	2146	Jones	A1	4	1/11/20xx	24
			3145	Smith	A2	4	2/10/20xx	24
			6126	Black	B1	9	7/11/20xx	18
			1214	Brown	A2	4	3/10/20xx	12
			8191	Green	A1	4	12/11/20xx	18
PAY22	Maint	Maintain Payments	6142	Jacks	A2	4	9/11/20xx	6
			3169	White	B2	10	4/11/20xx	12
			6145	Dean	B3	10	8/10/20xx	6

UNF:

Identifying the repeating group and they are represented by curly braces. Here 'project_code' is the primary key.

Project (project_code, project_type, description, {person_number, name, grade, salary_scale, project_join_date, allocated_time })

1NF

Repeating groups are made into separate tables with the primary key from the parent table making it composite primary keys. Here, "person " table is separated from the parent table "project".

Project -1 (project_code, project_type, description)

Person -1 (project_code*,person_number, name, grade, salary_scale, project_join_date, allocated_time)

2NF

Partial dependencies are checked on the tables having composite primary key, if found a separate table is made. Here, partial dependencies are checked in the "person" table.

Checking for partial dependency:

Project_code,person_number → project_join_date, allocated_time

Project_code →

Person_number → name, grade, salary_scale

Since there is partial dependency between person_number, project_code and other attributes, those attributes are separated and made into a separate table.

Project -2 (project_code, project_type, description)

Person -2 (person_number,name,grade,salary_scale)

Project_person -2 (project_code*, person_number*, project_join_date,allocated_time)

3NF

Transitive dependency is checked between each non-key attribute in every tables, if found they are separated in separate table. Here, there is transitive dependency between person_number, grade and salary_scale so they are separated.

Person_number → grade →salary_scale

Project -3 (project_code, project_type,description)

Person -3 (person_number, name,grade*)

Project-person -3 (project_code*, person_number*, project_join_date,allocated_time)

Grade -3 (grade, salary_scale)