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// Assignment: Lab 9 //
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Lab 09 – Database Design

Objective:

Students will learn:

- Conceptual Model
- Logical Model

Submission:

Save your lab file as a PDF file. You need to submit a single **PDF** file for this lab.

Your name and student ID MUST be in the PDF file or you will receive a mark of zero.

The name of the file must be as follow:

DBS211_L09_LASTNAME.pdf

Definitions:

Definition: A relation is in 1NF if it contains no multi-valued dependencies (also known as repeating groups).

Definition: A relation is in 2NF if it is in 1NF and it contains no Partial Dependencies.

Definition: A Partial Dependency occurs when a non-key attribute(s) is dependent on (or is determined by) a part of a composite primary key.

Definition: A relation is in 3NF if it is in 2NF and it contains no Transitive Dependencies.

Definition: A Transitive Dependency occurs when a non-key attribute (s) is dependent on (or is determined by) another non-key attribute.

Tasks:

Consider the following form, generated and used to collect the information about a project. Convert and write the UNF, 1NF, 2NF and 3NF for the given form. Also mention the dependencies and primary keys and foreign keys.

Project Management Report

Project Code:

Project Title:

Project Manager:

Project Budget:

Employee No.	Employee Name	Department No	Department Name	Hourly Rate
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UNF Project [ProjectCode, ProjectTitle, ProjectManager, ProjectBudget, (EmployeeNo, EmployeeName, Department No, DepartmentName, HourlyRate)]

1NF Project [ProjectCode, EmployeeNo, ProjectTitle, ProjectManager, ProjectBudget
EmployeeName, DepartmentNumber, DepartmentName, HourlyRate]

2NF Project [ProjectCode, ProjectTitle, ProjectManager, ProjectBudget]
Employee [EmployeeNumber, EmployeeName, HourlyRate]
Project_Employee [ProjectCode, EmployeeNo]

3NF

Project_Report [ProjectCode, ProjectTitle, ProjectManager, ProjectBudget,
DepartmentNumber(FK)]

Department [DepartmentNumber, DepartmentName]

Employee [EmployeeNumber, EmployeeName, HourlyRate]

Project [ProjectCode, EmployeeNumber]