**Elle Nguyen – Quiz 7 Answer**

A table of names and numbers

Description automatically generated

1. What are the types of the following dependencies in the table?

|  |  |
| --- | --- |
| ProjID ProjName | Partial |
| EmpID EmpName, JobClass, HourlyRate | Partial |
| JobClass HourlyRate | Transitive |
| ProjID, EmpID Hours | Full |

1. Is this table in 1NF?

Yes, because each row is unique and no column in any row contains multiple values.

1. What is the result of normalizing the table in 2NF?

Remove partial function dependencies:

ProjID ProjName

Create new table PROJECTS: **ProjID (PK)** | ProjName

Remove ProjName from original table

EmpID EmpName, JobClass, HourlyRate

Create new table EMPLOYEES: **EmpID (PK)** | EmpName | JobClass | HourlyRate

Remove EmpName, JobClass, HourlyRate from original table

Resulting table in 2NF:

PROJECT\_EMPLOYEES\_MIX: **ProjID (PK)** | **EmpID (PK)** | Hours

PROJECTS: **ProjID (PK)** | ProjName

EMPLOYEES: **EmpID (PK)** | EmpName | JobClass | HourlyRate

1. What is the result of normalizing the table in 3NF?

Remove transitive function dependencies:

JobClass HourlyRate

Create new table JOB\_CLASS: **JobClass (PK)** | HourlyRate

Remove HourlyRate from EMPLOYEES: **EmpID (PK)** | EmpName | JobClass

Resulting table in 3NF:

PROJECT\_EMPLOYEES\_MIX: **ProjID (PK)** | **EmpID (PK)** | Hours

PROJECTS: **ProjID (PK)** | ProjName

EMPLOYEES: **EmpID (PK)** | EmpName | JobClass

JOB\_CLASS: **JobClass (PK)** | HourlyRate