

# INFO503 Database Project (Part 1b)

Jaco Storm

15435194

1. Write DDF for the Table 1. Explain which field(s) is/are in repeating group.

[Unnamed table] = Emp\_ID + Emp\_Name + Emp\_Address + {Task\_Allocated} + Specialisation + Dept\_ID + Dept\_Name

DDF is a formula which help in indicating which set of data has an array of information within one set.

2. Convert the table to 1NF and explain the changes.

Do I need to include both PKs?

## Employee Records

EMP_ID	EMP_Name	EMP_Address	Task_Allocated	Dept_ID	Dept_Name
1	Michael Myers	Hamilton	Software	A1	IT
1	Michael Myers	Hamilton	Software	A1	IT
1	Michael Myers	Hamilton	Software	A1	IT
2	Nicole Arden	Hamilton	Accounting	A5	Finance
2	Nicole Arden	Hamilton	Accounting	A5	Finance

## Employee Specialisations

EMP_ID	Specialisation
1	Analysis
1	Design
1	Coding
2	Accounts
2	Balancesheet

3. Referring to the dependency diagram in Figure 1, identify partial and transitive dependencies and explain why they are so.

Emp\_Name, Emp\_Address, Task\_Allocated and Dept\_ID is partially depended on Emp\_ID for existence. Specialisation is also depended on Emp\_Name same as Dept\_Name is partial depended on Dept\_ID for existence.

Dept\_Name is transitive depended on Emp\_ID through Dept\_ID likewise Specialisation is transitive depended on Emp\_ID through Emp\_Name

4. Convert the table into 2NF and explain the changes.

#### Employee Records

EMP_ID	EMP_Name	EMP_Address	Task_Allocated
1	Michael Myers	Hamilton	Software
1	Michael Myers	Hamilton	Software
1	Michael Myers	Hamilton	Software
2	Nicole Arden	Hamilton	Accounting
2	Nicole Arden	Hamilton	Accounting

#### Employee Department

EMP_ID	Dept_ID	Dept_Name
1	A1	IT
1	A1	IT
1	A1	IT
2	A5	Finance
2	A5	Finance

#### Employee Specialisations

EMP_ID	Specialisation
1	Analysis
1	Design
1	Coding
2	Accounts
2	Balancesheet

5. Convert the table into 3NF and explain the changes.

#### Employee Records

EMP_ID	EMP_Name	EMP_Address	Task_Allocated	Dept_ID
1	Michael Myers	Hamilton	Software	A1
1	Michael Myers	Hamilton	Software	A1
1	Michael Myers	Hamilton	Software	A1
2	Nicole Arden	Hamilton	Accounting	A5
2	Nicole Arden	Hamilton	Accounting	A5

#### Departments

Dept_ID	Dept_Name
A1	IT
A1	IT
A1	IT
A5	Finance
A5	Finance

#### Employee Specialisations

EMP_ID	Specialisation
1	Analysis
1	Design
1	Coding
2	Accounts
2	Balancesheet