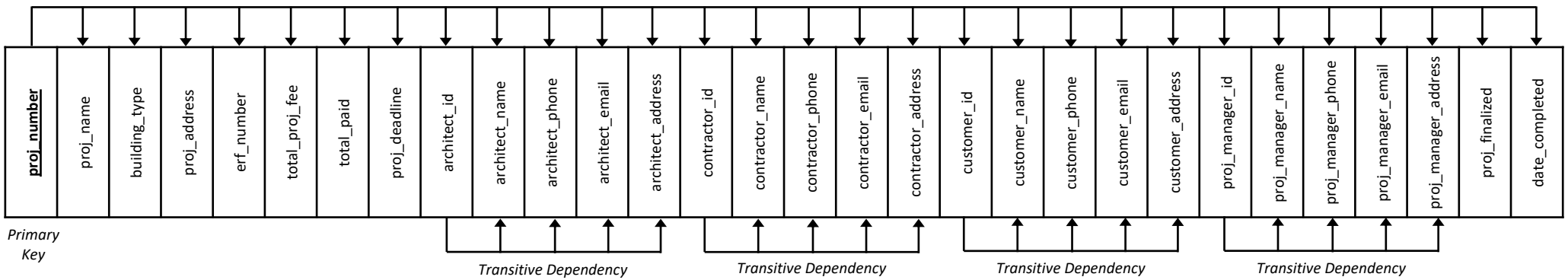
L3T8 Compulsory Task 1: Entity Relationship Diagram (ERD)

First Normal Form (1NF)

In the dependency diagram below, the table is converted to 1NF because:

- All the key attributes are defined.
- There are no repeating groups in the table.
- All attributes are dependent on the primary key.

Table 1 name: projects (1NF)



Third Normal Form (3NF)

In the dependency diagram below, the table is converted to 3NF because:

- There are no partial dependencies.
- There are no transitive dependencies.

Table 1 name: projects (3NF)

Relational Schema:
(**proj_number,** proj_name, building_type, proj_address, erf_number, total_proj_fee, total_paid, proj_deadline, architect_id, contractor_id, customer_id, proj_manager_id, proj_finalized, date_completed)

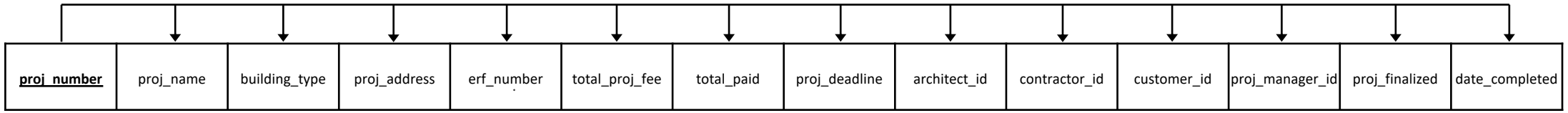


Table 2 name: architects (3NF)

Relational Schema:
(**architect_id,** architect_name, architect_phone, architect_email, architect_address)

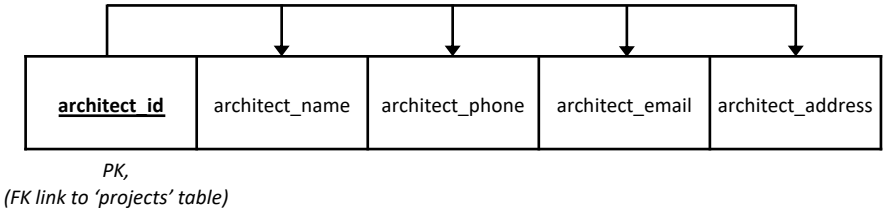


Table 3 name: contractors (3NF)

Relational Schema:
(**contractor_id,** contractor_name, contractor_phone, contractor_email, contractor_address)

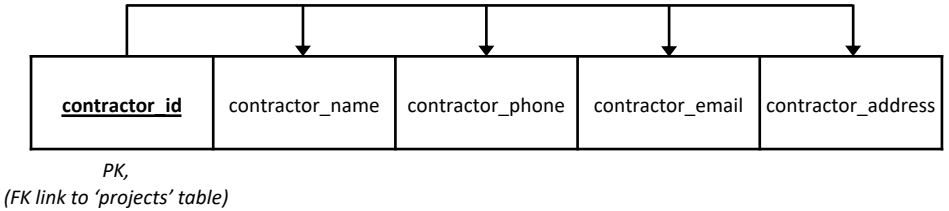
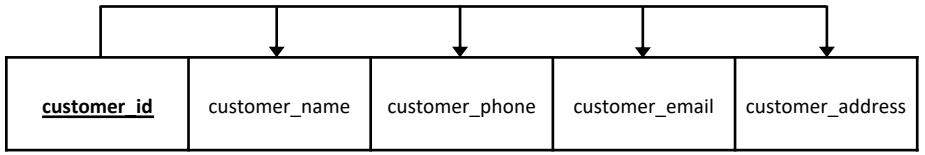


Table 4 name: customers (3NF)

Relational Schema:

(**customer_id,** customer_name, customer_phone, customer_email, customer_address)



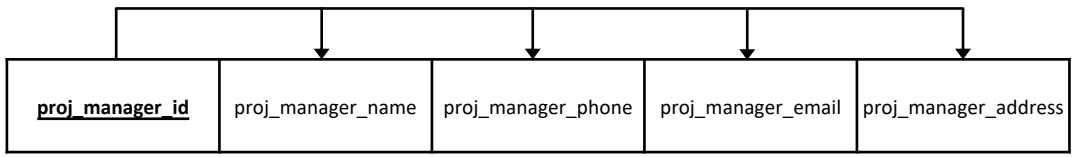
PK,

(FK link to 'projects' table)

Table 5 name: managers (3NF)

Relational Schema:

(**proj_manager_id**, proj_manager_name, proj_manager_phone, proj_manager_email, proj_manager_address)



PK,

(FK link to 'projects' table)

Diagram Description:
The ERD below shows that the 'projects' table has a many to one relation ship with the architect, contractors, customers, and managers tables. This means that each project can only have one architect, contractor, customer and project manager, while the architects, contractors, customers and managers may have many projects associated with them.