



# **MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

## **FACULTY OF COMPUTING AND INFORMATICS**

### **BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING**

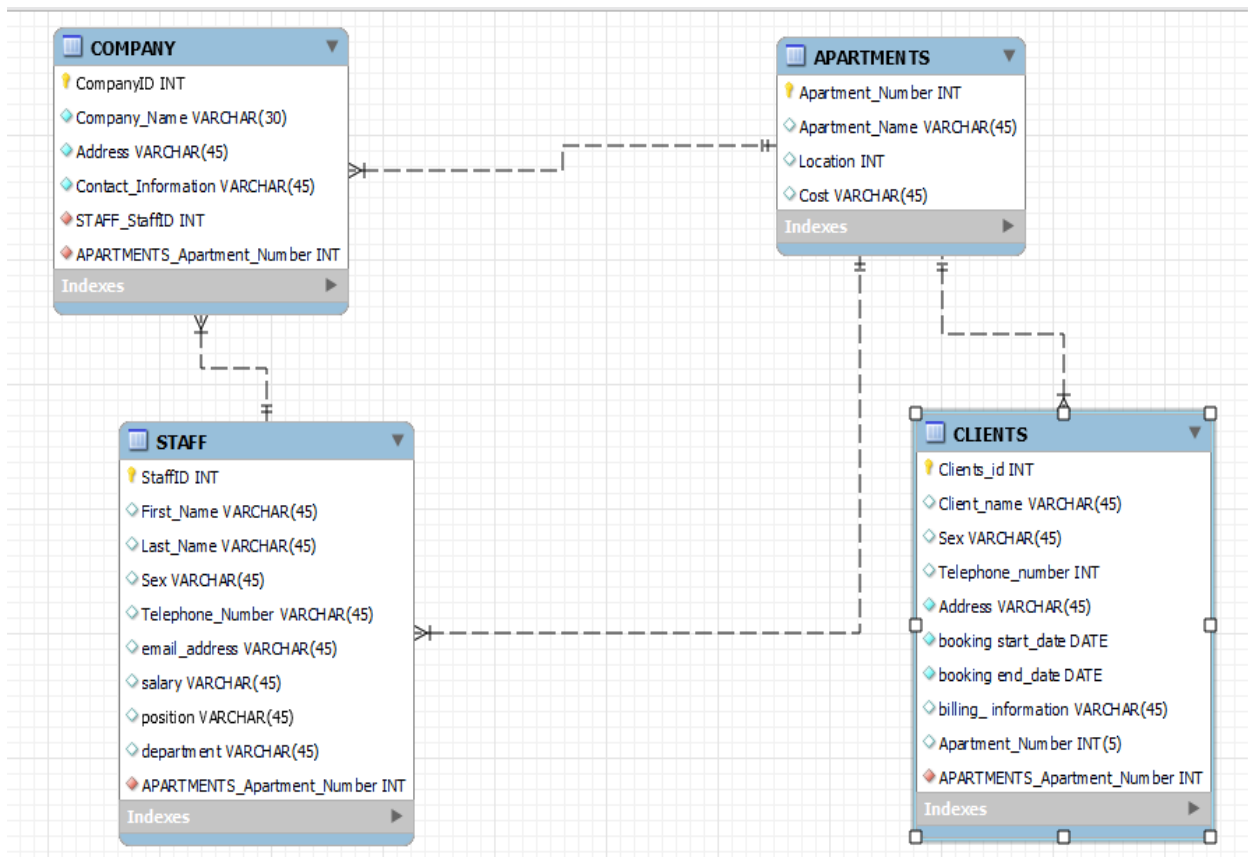
#### **DATABASE PROGRAMMING**

**COURSE CODE: SWE 1205**

#### **GROUP MEMBERS**

|                         |                 |
|-------------------------|-----------------|
| BIRUNGI ANGELLA MIRIAM  | 2023/BSE/041/PS |
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## ENTITY RELATIONSHIP MODEL OF APARTMENT BOOKING MANAGEMENT SYSTEM



## EXPLANATION OF THE ABOVE ER DIAGRAM

### Entities:

- **COMPANY**

Attributes:

- CompanyID (INT) - Unique identifier for the company
- Company\_Name (VARCHAR(30)) - Name of the company
- Address (VARCHAR(45)) - Company's address
- Contact\_Information (VARCHAR(45)) - Company's contact information (phone number, email, etc.)
- STAFF\_StaffID (INT) - Foreign key referencing the StaffID in the STAFF table (possibly for a contact person)

- **APARTMENTS**

Attributes:

- Apartment\_Number (INT) - Unique identifier for the apartment
- Apartment\_Name (VARCHAR(45)) - Name of the apartment (optional)

- Location (INT) - Location code for the apartment (possibly building number or floor)
- Cost (VARCHAR(45)) - Cost of the apartment (monthly rent or price)
- **STAFF**

Attributes:

  - StaffID (INT) - Unique identifier for the staff member
  - First\_Name (VARCHAR(45)) - Staff member's first name
  - Last\_Name (VARCHAR(45)) - Staff member's last name
  - Sex (VARCHAR(45)) - Staff member's gender
  - Telephone\_Number (VARCHAR(45)) - Staff member's phone number
  - email\_address (VARCHAR(45)) - Staff member's email address
  - salary (VARCHAR(45)) - Staff member's salary
  - position (VARCHAR(45)) - Staff member's job position
  - department (VARCHAR(45)) - Staff member's department
  - APARTMENTS\_Apartment\_Number (INT) - Foreign key referencing the Apartment\_Number in the APARTMENTS table ( for managing assigned apartments)
- **CLIENTS**

Attributes:

  - ClientID (INT) - Unique identifier for the client
  - First\_Name (VARCHAR(45)) - Client's first name
  - Last\_Name (VARCHAR(45)) - Client's last name
  - Contact\_Information (VARCHAR(45)) - Client's contact information (phone number, email, etc.)
  - APARTMENTS\_Apartment\_Number (INT) - Foreign key referencing the Apartment\_Number in the APARTMENTS table (indicates the apartment currently rented by the client)

### **Relationships:**

#### **1. Company and Apartments (One-to-Many)**

A single company can own or manage many apartments. This is a one-to-many relationship.

#### **2. Apartments and Clients (One-to-One)**

An individual apartment can only be rented by one client at a time. This is a one-to-one relationship.

#### **3. Apartments and Staff (One-to-Many)**

An apartment can be managed by one or more staff members (Forexample, for maintenance or showing the apartment). This is a one-to-many relationship.

#### **4. Staff and Apartments (Optional - Many-to-Many)**

In some scenarios, a staff member might be responsible for multiple apartments (e.g., a property manager). This would create a many-to-many relationship between STAFF and APARTMENTS.