

Identified Entities and Attributes:

1. Department

○ Attributes:

- Department_ID (Primary Key)
- Department_Name (Mandatory)
- Supervisor_ID (Foreign Key linking to Employee)
- Supervisor_Name (Mandatory)

2. Employee

○ Attributes:

- Employee_ID (Primary Key)
- First_Name (Mandatory)
- Last_Name (Mandatory)
- Employee_Number (Mandatory)
- Department_ID (Foreign Key linking to Department) (Mandatory)

3. Project

○ Attributes:

- Project_ID (Primary Key)
- Project_Name (Mandatory)
- Project_Number (Mandatory)
- Employee_ID (Foreign Key linking to Employee) (Optional)

4. Supervisor

○ Attributes:

- Supervisor_ID (Primary Key)
- First_Name (Mandatory)
- Last_Name (Mandatory)
- Employee_ID (Foreign Key linking to Employee) (Mandatory)

Task 2: Entities, Attributes, and Relationships in a Salon

Identified Entities and Attributes:

1. Hairstylist

○ Attributes:

- Hairstylist_ID (Primary Key) — Mandatory
- First_Name — Mandatory
- Last_Name — Mandatory
- Address — Optional
- Phone_Number — Optional
- Social_Security_Number — Mandatory
- Salary — Mandatory

2. Client

○ Attributes:

- Client_ID (Primary Key) — Mandatory

- First_Name — Mandatory
- Last_Name — Optional
- Phone_Number — Optional
- Preferred_Hairstylist_ID (Foreign Key linking to Hairstylist) — Optional

Relationships (ERDish):

- **One Hairstylist can see many Clients.**
 - **Relationship:** A Hairstylist works with zero or many Clients, and a Client is seen by one Hairstylist per appointment.

Task 3: Entities, Attributes, and Relationships in a School

Identified Entities and Attributes:

1. Teacher

- **Attributes:**
 - Teacher_ID (Primary Key) — Mandatory
 - First_Name — Mandatory
 - Last_Name — Mandatory
 - Address — Optional
 - Phone_Number — Optional
 - Email_Address — Optional

2. Course

- **Attributes:**
 - Course_ID (Primary Key) — Mandatory
 - Course_Code — Mandatory
 - Course_Name — Mandatory

3. Class

- **Attributes:**
 - Class_ID (Primary Key) — Mandatory
 - Course_ID (Foreign Key linking to Course) — Mandatory
 - Teacher_ID (Foreign Key linking to Teacher) — Mandatory
 - Day — Mandatory
 - Time — Mandatory
 - Classroom — Mandatory

Relationships (ERDish):

- **One Teacher teaches up to three Classes.**
 - **Relationship:** A Teacher may teach up to three Classes, but a Class is taught by only one Teacher.
- **One Course can have multiple Classes.**
 - **Relationship:** A Course may be offered in several Classes, but each Class belongs to only one Course.