The schema for the Mercado Escolar Shopping data management is divided into logical model and physical model. The logical model represents the entities and their attributes and establishes the relationships between the entities. The physical model describe the actual structure of the database models

**The logical Model is as follows:**

The entities are represented by the tables, the attributes are represented by the table columns and the primary key and foreign keys of the tables are bolded and underlined

**Student Table**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Reg\_No** | Student\_Name | Phone\_number | Address | Department | Level | Programme | **School\_admin\_no** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Primary key: Reg\_No

Foreign\_Key Parent Table

School\_admin\_no School Admin Table

**Club Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Club\_Number** | Club\_Name | Purpose | Activities | Department | Club\_Leader |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Primary Key: Club\_Number.

**Student\_Club Join Table**

|  |  |
| --- | --- |
| **Reg\_No** | **Club\_Number** |
|  |  |
|  |  |

Foreign Key Parent Table

Reg\_No Student Table

Club\_Number Club Table

**Product Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Product\_Number** | Product\_Name | Manufacturer | Model | Price | Material |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Primary key: Product\_Number

**Student\_Product Join Table**

|  |  |
| --- | --- |
| **Reg\_no** | **Product\_Number** |
|  |  |
|  |  |

Foreign Key Parent Table

Reg\_No Student Table

Product\_Number Product Table

**Business\_Owner Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Business\_Owner\_No** | Business\_Owner\_Name | Business\_Owner\_Phone\_no | Business\_Owner\_Address | Business\_Owner\_Location | **School\_admin\_no** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Primary key: Business\_Owner\_No

Foreign Key Parent Table

School\_admin\_no School Admin Table

**Business\_Owner\_Product JoinTable**

|  |  |
| --- | --- |
| **Business\_Owner\_No** | **Product\_Number** |
|  |  |
|  |  |

Foreign Key Parent Table

Business\_Owner\_no Business Owner Table

Product\_Number Product Table

**Order Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Order\_No** | Product\_name | Order\_Date | Quantity | Buyers\_Name | Buyers\_phone\_No | Delivery\_address |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Primary key: Order\_no

**Business\_Owner\_Order Join Table**

|  |  |
| --- | --- |
| **Business\_Owner\_No** | **Order\_No** |
|  |  |
|  |  |

Foreign Key Parent Table

Business\_Owner\_no Business Owner Table

Order\_no Order Table

**Product\_Order Join Table**

|  |  |
| --- | --- |
| **Product\_Number** | **Order\_No** |
|  |  |
|  |  |

Foreign Key Parent Table

Order\_no Order Table

Product\_Number Product Table

**Super\_Admin Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Super\_Admin\_No** | Super\_Admin\_Name | Phone\_number | Address | Rank | Department |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Primary key: Super\_admin\_No

**School\_Admin Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **School\_Admin\_No** | Admin\_Name | Address | Phone\_number | Department | Department | **Super\_admin\_no** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Primary key: School\_admin\_no

Foreign Key Parent Table

Super\_admin\_no Super Admin Table

**The Physical Model**

The physical model describes the structure of the tables in the database. It describe the tables attributes and their type and size

**Student\_Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Reg\_no | Varchar(20), PK |
| Student\_Name | Text |
| Department | Text |
| Address | Varchar(100) |
| Phone\_Number | Int |
| Programme | Text |
| Level | Varchar(20) |
| School\_Admin\_No | Varchar(20), FK |

**Club Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Club\_Number | Varchar(20), PK |
| Club\_Name | Text |
| Activities | Text |
| Club Leader | Text |
| Department | Text |

**Student\_Club Join Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Reg\_no | Varchar(20), FK |
| Club\_Number | Varchar(20), FK |

**Product\_Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Product\_number | Varchar(20), PK |
| Product\_Name | Text |
| Manufacturer | Text |
| Model | Varchar(50) |
| Price | Int |
| Material | Text |

**Student\_Product Join Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Reg\_no | Varchar(20), FK |
| Product\_Number | Varchar(20), FK |

**Business\_Owner Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Business\_Owner\_No | Varchar(20), PK |
| Business\_Owner\_Name | Text |
| Business\_Owner\_Phone\_no | Int |
| Business\_Owner\_Address | Varchar(200) |
| Category | Text |
| Location | Varchar(50) |
| School\_admin\_no | Varchar(20), FK |

**Business\_Owner\_Product Join Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Business\_Owner\_No | Varchar(20), FK |
| Product\_Number | Varchar(20), FK |

**Order Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Order\_no | Varchar(20), PK |
| Product\_Name | Text |
| Order\_Date | Date |
| Quantity | Int |
| Buyers\_Name | Text |
| Deliveryy\_Address | Varchar(100) |
| Buyers\_Phone\_no | int |

**Product\_Order Join Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Order\_no | Varchar(20), FK |
| Product\_number | Varchar(20), FK |

**Order\_Business\_Owner Join Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Business\_Owner\_Number | Varchar(20), FK |
| Order\_number | Varchar(20), FK |

**Super\_Admin Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| Super\_Admin\_no | Varchar(20), PK |
| Super\_Admin\_Name | Text |
| Super\_Admin\_Phone\_number | Int |
| Super\_Admin\_Address | Varchar(100) |
| Super\_Admin\_Rank | Varchar(50) |
| Super\_Admin\_Department | Text |

**School\_Admin Table**

|  |  |
| --- | --- |
| Attribute Name | Data type |
| School\_Admin\_no | Varchar(20), PK |
| School\_Admin\_Name | Text |
| School\_admin\_Phone\_Numner | Int |
| School\_Admin\_Department | Text |
| School\_Admin\_Address | Varchar(100) |
| School\_Admin\_Rank | Varchar(50) |
| Super\_Admin\_No | Varchar(20), FK |