Name: Diyana Shrestha

**MANKATO AUTOSHOP**

1. **Entity types**

Department: Department of the auto shop

Employee: The people who work in the auto shop

Salesrep: The sales in the auto shop

Admin: The admin of the auto shop

Support: The support for the auto shop

Orders: The orders given by the customers

Payment: The payment given by the customers

Customer: The customer who buys cars from the auto shop

Retail: Customer buying cars in retail price

Wholesale: Customer buying cars in wholesale price

Ordline: Ordering products by the customer

Parts: Parts ordered by the customer

Carpart: Car parts ordered by the customer

Cars: Cars in the auto shop

1. **Relationship Types and Attributes**

Attribute of Department: (DEPT\_ID, DEPT\_NAME, DEPT\_LOCATION)

One department can have only one department id at one time.

Attribute of Employee: (EMP\_ID, EMP\_NAME, EMP\_ADDRESS, EMP\_PHONE, EMP\_SALARY, EMP\_TAXID, EMP\_TYPE, DEPT\_ID)

Attribute of Salesrep: (EMP\_ID, SR\_TOTSALES, SR\_COMMISSION)

Attribute of Admin: (EMP\_ID, ADM\_TITLE, ADM\_BONUS)

Attribute of Support: (EMP\_ID, SP\_AREA, SP\_CERTNUM, SP\_CERTDATE)

Attribute of Orders: (ORD\_NUM, ORD\_DATE, ORD\_SHIPADDRESS, CUS\_ID, ORD\_SUBTOT, ORD\_TAXTOT, ORD\_SHIPTOT, ORD\_SHIPDATE, ORD\_TOTAL, ORD\_TOTPAID, ORD\_STATUS, EMP\_ID)

Attribute of Payment: (PYMT\_ID, CUS\_ID, PYMT\_DATE, PYMT\_AMOUNT, PYMT\_TYPE, PYMT\_REF)

Attribute of Customer: (CUS\_ID, CUS\_NAME, CUS\_ADDRESS, CUS\_PHONE, CUS\_SHIP\_ADDR, CUS\_LASTPURDATE, CUS\_LASTPYMTDATE, CUS\_TYPE, CUS\_EMAIL)

Attribute of Retail: (CUS\_ID, CUS\_CC, CUS\_CC\_NUM, CUS\_CC\_EXP\_DATE)

Attribute of Wholesale: (CUS\_ID, CUS\_CNAME, CUS\_CPHONE, CUS\_CEMAIL, CUS\_PONUM, CUS\_PODATE, CUS\_DISCOUNT, CUS\_BILLADDRESS, CUS\_TAX\_STATUS, CUS\_TAX\_ID)

Attribute of Ordline: (ORD\_NUM, ONLINE\_NUM, PART\_ID, OLINE\_QTY, OLINE\_PRICE)

Attribute of Parts: (PART\_ID, PART\_DESCRIPT, PART\_PRICE, PART\_QOH)

Attribute of Carpart: (CAR\_ID, PART\_ID)

Attribute of Cars: (CAR\_ID, CAR\_MANUF, CAR\_MODEL, CAR\_YEAR)

1. **Entity type**

Department

Primary Key: DEPT\_ID

Employee

Primary Key: EMP\_ID

Foreign Key: DEPT\_ID

Salesrep

Primary Key: EMP\_ID

Foreign Key: EMP\_ID

Admin

Primary Key: EMP\_ID

Foreign Key: EMP\_ID

Support

Primary Key: EMP\_ID

Foreign Key: EMP\_ID

Orders

Primary Key: ORD\_NUM

Foreign Key 1: EMP\_ID

Foreign Key 2: CUS\_ID

Payment

Primary Key: PYMT\_ID

Foreign Key: CUS\_ID

Customer

Primary Key: CUS\_ID

Retail

Primary Key: CUS\_ID

Foreign Key: CUS\_ID

Wholesale

Primary Key: CUS\_ID

Foreign Key: CUS\_ID

Ordline

Primary Key: ORD\_NUM, ONLINE\_NUM

Foreign Key 1: ORD\_NUM

Foreign Key 2: PART\_ID

Parts

Primary Key: PART\_ID

Carpart

Primary Key: CAR\_ID, PART\_ID

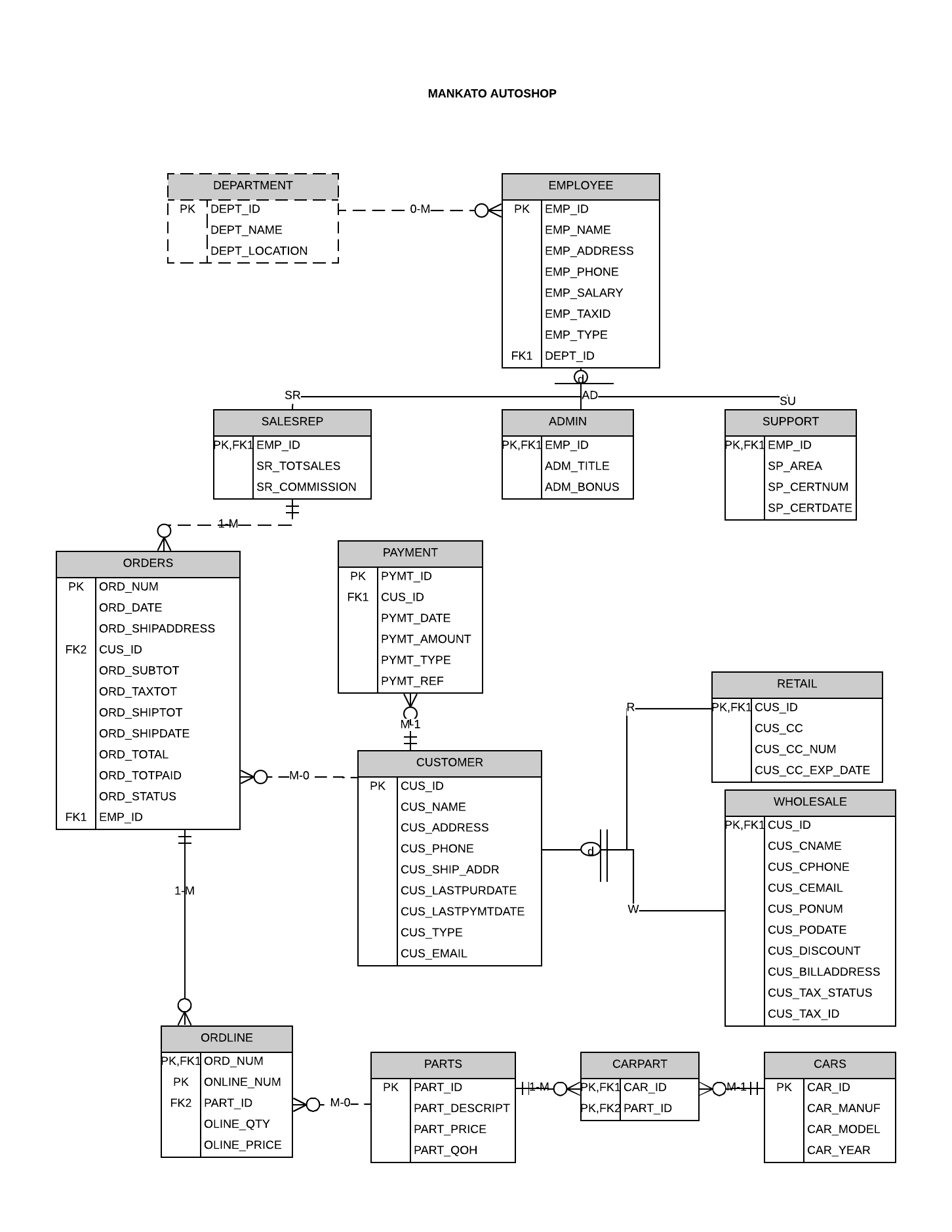
Foreign Key 1: CAR\_ID

Foreign Key 2: PART\_ID

Cars

Primary Key: CAR\_ID

1. **ERD DIAGRAM**



1. CREATE TABLE `department`(

`dept\_id` INT NOT NULL,

`dept\_name` VARCHAR(255) NOT NULL,

`dept\_location` VARCHAR(255) NULL,

PRIMARY KEY(`dept\_id`)

);

CREATE TABLE `employee`(

`emp\_id` INT NOT NULL,

`emp\_name` VARCHAR(255) NOT NULL,

`emp\_address` VARCHAR(255) NOT NULL,

`emp\_phone` VARCHAR(30) NOT NULL,

`emp\_salary` INT NOT NULL,

`emp\_taxid` INT NOT NULL,

`emp\_type` VARCHAR(255) NOT NULL,

`dept\_id` INT NOT NULL,

PRIMARY KEY(`emp\_id`),

FOREIGN KEY(`dept\_id`) REFERENCES `department`(`dept\_id`)

);

CREATE TABLE `salesrep`(

`emp\_id` INT NOT NULL,

`sr\_totalsales` FLOAT DEFAULT 0.0,

`sr\_commission` FLOAT DEFAULT 0.0,

PRIMARY KEY(`emp\_id`),

FOREIGN KEY(`emp\_id`) REFERENCES `employee`(`emp\_id`)

);

CREATE TABLE `admin`(

`emp\_id` INT NOT NULL,

`adm\_title` VARCHAR(255) NOT NULL,

`adm\_bonus` FLOAT DEFAULT 0.0,

PRIMARY KEY(`emp\_id`),

FOREIGN KEY(`emp\_id`) REFERENCES `employee`(`emp\_id`)

);

CREATE TABLE `support`(

`emp\_id` INT NOT NULL,

`sp\_area` VARCHAR(255) NOT NULL,

`sp\_certnum` INT,

`sp\_certdate` DATE,

PRIMARY KEY(`emp\_id`),

FOREIGN KEY(`emp\_id`) REFERENCES `employee`(`emp\_id`)

);

CREATE TABLE `customer`(

`cus\_id` INT NOT NULL,

`cus\_name` VARCHAR(255) NOT NULL,

`cus\_address` VARCHAR(255) NOT NULL,

`cus\_phone` VARCHAR(255) NOT NULL,

`cus\_ship\_addr` VARCHAR(255) NOT NULL,

`cus\_lastpurdate` DATE,

`cus\_lastpymtdate` DATE,

`cus\_type` VARCHAR(5) NOT NULL,

`cus\_email` VARCHAR(255) NOT NULL,

PRIMARY KEY(`cus\_id`)

);

CREATE TABLE `retail`(

`cus\_id` INT NOT NULL,

`cus\_cc` VARCHAR(255) NOT NULL,

`cus\_cc\_num` INT,

`cus\_cc\_exp\_date` DATE,

PRIMARY KEY(`cus\_id`),

FOREIGN KEY(`cus\_id`) REFERENCES `customer`(`cus\_id`)

);

CREATE TABLE `wholesale`(

`cus\_id` INT NOT NULL,

`cus\_cname` VARCHAR(255) NOT NULL,

`cus\_cphone` VARCHAR(255) NOT NULL,

`cus\_caddress` VARCHAR(255) NOT NULL,

`cus\_ponum` INTEGER NOT NULL,

`cus\_podate` DATE NOT NULL,

`cus\_discount` FLOAT,

`cus\_billaddress` VARCHAR(255),

`cus\_tax\_status` VARCHAR(255) NOT NULL,

`cus\_tax\_id` VARCHAR(255) NOT NULL,

PRIMARY KEY(`cus\_id`),

FOREIGN KEY(`cus\_id`) REFERENCES `customer`(`cus\_id`)

);

CREATE TABLE `payment`(

`pymt\_id` INT NOT NULL,

`cus\_id` INT NOT NULL,

`pymt\_date` DATE NOT NULL,

`pymt\_amount` FLOAT,

`pymt\_type` VARCHAR(255) NOT NULL,

`pymt\_ref` INT,

PRIMARY KEY(`pymt\_id`),

FOREIGN KEY(`cus\_id`) REFERENCES `customer`(`cus\_id`)

);

CREATE TABLE `orders`(

`ord\_num` INT NOT NULL,

`ord\_date` DATE NOT NULL,

`ord\_shipaddress` VARCHAR(255) NOT NULL,

`cus\_id` INT NOT NULL,

`ord\_subtot` FLOAT NOT NULL,

`ord\_taxtot` FLOAT NOT NULL,

`ord\_shiptot` FLOAT NOT NULL DEFAULT 0,

`ord\_shipdate` DATE NOT NULL,

`ord\_total` FLOAT NOT NULL DEFAULT 0,

`ord\_totpaid` FLOAT NOT NULL DEFAULT 0,

`ord\_status` VARCHAR(255) NOT NULL,

`emp\_id` INT NOT NULL,

PRIMARY KEY(`ord\_num`),

FOREIGN KEY(`emp\_id`) REFERENCES `salesrep`(`emp\_id`),

FOREIGN KEY(`cus\_id`) REFERENCES `customer`(`cus\_id`)

);

CREATE TABLE `parts`(

`part\_id` INT NOT NULL,

`part\_descript` INT NOT NULL,

`part\_price` FLOAT NOT NULL,

`part\_qoh` INT NOT NULL,

PRIMARY KEY(`part\_id`)

);

CREATE TABLE `cars`(

`car\_id` INT NOT NULL,

`car\_manuf` VARCHAR(255) NOT NULL,

`car\_model` VARCHAR(255) NOT NULL,

`car\_year` INT NOT NULL,

PRIMARY KEY(`car\_id`)

);

CREATE TABLE `carpart`(

`part\_id` INT NOT NULL,

`car\_id` INT NOT NULL,

PRIMARY KEY(`part\_id`, `car\_id`),

FOREIGN KEY(`part\_id`) REFERENCES `parts`(`part\_id`),

FOREIGN KEY(`car\_id`) REFERENCES `cars`(`car\_id`)

);

CREATE TABLE `ordline`(

`order\_num` INT NOT NULL,

`online\_num` INT NOT NULL,

`part\_id` INT NOT NULL,

`online\_qty` INT NOT NULL,

`online\_price` FLOAT NOT NULL,

PRIMARY KEY(`online\_num`, `order\_num`),

FOREIGN KEY(`order\_num`) REFERENCES `orders`(`ord\_num`),

FOREIGN KEY(`part\_id`) REFERENCES `parts`(`part\_id`)

);