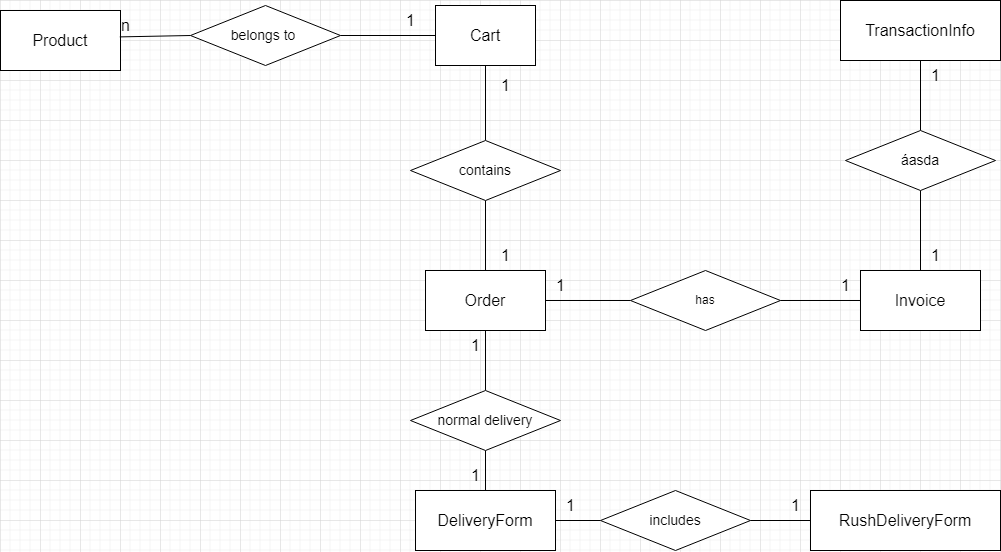
Name: Mai Duc An

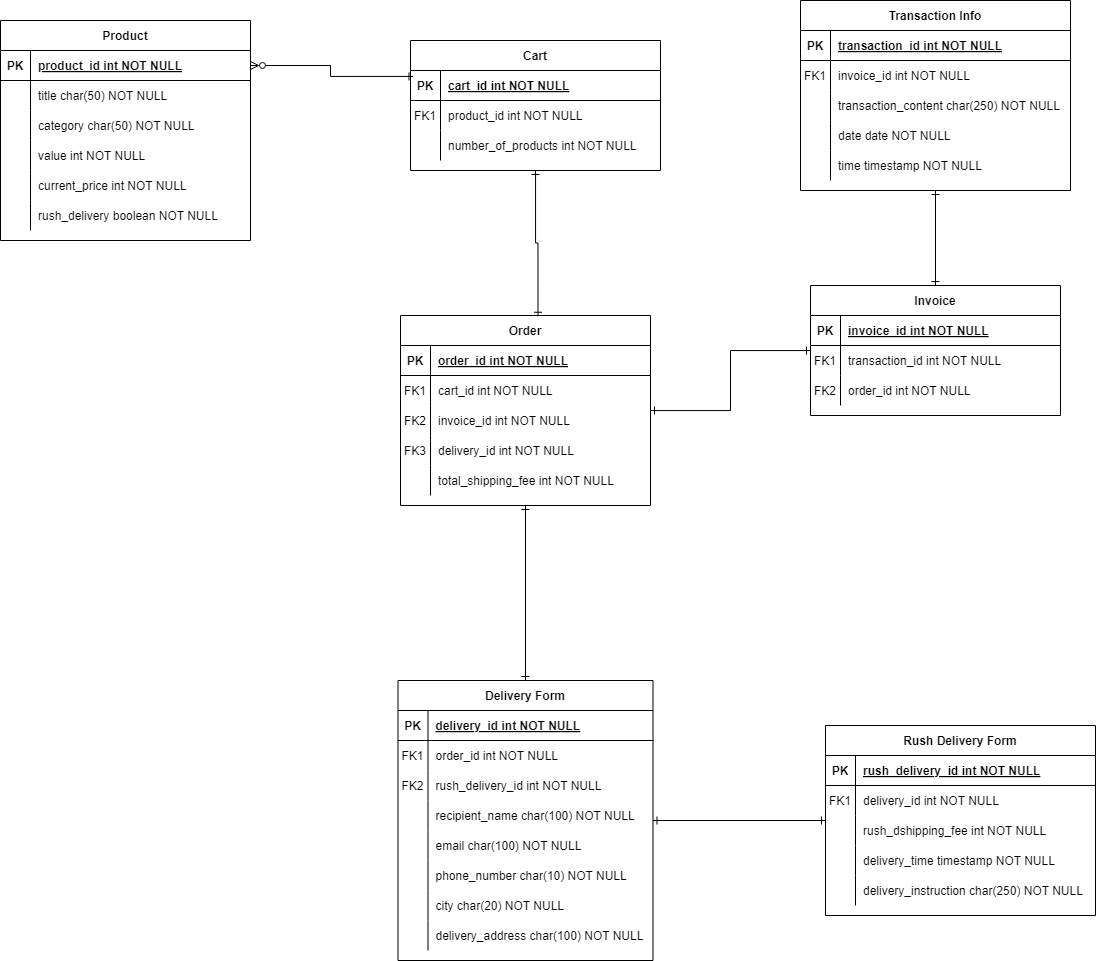
Student ID: 20210008

**Data Modeling**

1. Conceptual data model



1. Logical data model



1. Physical data model

Product:

| CREATE TABLE Product (  product\_id INT NOT NULL PRIMARY KEY,  title CHAR(50) NOT NULL,  category CHAR(50) NOT NULL,  value INT NOT NULL,  current\_price INT NOT NULL,  rush\_delivery BOOLEAN NOT NULL ); |
| --- |

Cart:

| CREATE TABLE Cart (  cart\_id INT NOT NULL PRIMARY KEY,  number\_products INT NOT NULL,  FOREIGN KEY (FK1\_product\_id) REFERENCES Product(product\_id)); |
| --- |

Order:

| CREATE TABLE Order (  order\_id INT NOT NULL PRIMARY KEY,  total\_shipping\_fee INT NOT NULL,  FOREIGN KEY (FK1\_cart\_id) REFERENCES Cart(cart\_id),  FOREIGN KEY (FK2\_invoice\_id) REFERENCES Invoice(invoice\_id), FOREIGN KEY (FK3\_delivery\_id) REFERENCES Delivery\_Form(delivery\_id)); |
| --- |

Delivery Form:

| CREATE TABLE Delivery\_Form (  delivery\_id INT NOT NULL PRIMARY KEY,  recipient\_name CHAR(50) NOT NULL,  email CHAR(100) NOT NULL,  phone\_number CHAR(10) NOT NULL,  city CHAR(20) NOT NULL,  delivery\_address CHAR(100) NOT NULL,  FOREIGN KEY (FK1\_order\_id) REFERENCES Order(order\_id) FOREIGN KEY (FK2\_rush\_delivery\_id) REFERENCES Rush\_Delivery\_Form(rush\_delivery\_id) ); |
| --- |

Rush Delivery Form:

| CREATE TABLE Rush\_Delivery\_Form (  rush\_delivery\_id INT NOT NULL PRIMARY KEY,  rush\_shipping\_fee INT NOT NULL, delivery\_time TIMESTAMP NOT NULL, delivery\_instruction CHAR(250), FOREIGN KEY (FK1\_delivery\_id) REFERENCES Delivery\_Form(delivery\_id) ); |
| --- |

Invoice:

| CREATE TABLE Invoice (  invoice\_id INT NOT NULL PRIMARY KEY,  FOREIGN KEY (FK1\_transaction\_id) REFERENCES Transaction\_Info(transaction\_id) FOREIGN KEY (FK2\_order\_id) REFERENCES Order(order\_id)); |
| --- |

Transaction Info:

| CREATE TABLE Transaction (  transaction\_id INT NOT NULL PRIMARY KEY,  transaction\_content CHAR(250) NOT NULL,  date DATE NOT NULL,  time TIMESTAMP NOT NULL, FOREIGN KEY (FK1\_invoice\_id) REFERENCES Invoice(invoice\_id)); |
| --- |