

## **Project 1 Part 2**

**Convert the above ER diagram into relational schemas.**

- 1. Entity: Customers**
  - a. Name of the relation:** Customers
  - b. Names of the Attributes:**  
customer\_id (primary key), first\_name, last\_name, age, gender, zip\_code
  - c. Domain of each attribute:**  
customer\_id (INT)  
first\_name (VARCHAR2(30))  
last\_name (VARCHAR2(30))  
age (INT)  
gender (VARCHAR2 (1))  
zip\_code (VARCHAR2 (10))
  - d. Primary key:** customer\_id
  - e. Foreign key:** None
- 2. Entity: Transactions**
  - a. Name of the relation:** Transactions
  - b. Names of the Attributes:**  
Transaction\_id (primary key), transaction\_date, payment\_method, total
  - c. Domain of each attribute:**  
transaction\_id (INT)  
transaction\_date (DATE)  
payment\_method (VARCHAR2(255))  
total (DECIMAL (10,2))  
customer\_id (INT, foreign key references Customers(customer\_id))
  - d. Primary key:** transaction\_id
  - e. Foreign key:** customer\_id references Customer(customer\_id)
- 3. Entity: Products**
  - a. Name of the relation:** Products
  - b. Names of the Attributes:**  
UPC, product\_name, brand, category, product\_description, marked\_price, quantity\_in\_stock
  - c. Domain of each attribute:**  
product\_id (INT)  
upc (VARCHAR2(30))

- product\_name (VARCHAR2(30))
- brand (VARCHAR2(30))
- category (VARCHAR2(30))
- product\_description (VARCHAR2(30))
- marked\_price (number)
- quantity\_in\_stock (number)
- d. **Primary key:** UPC
- f. **Foreign key:** None

**4. Entity:** Contains

- a. **Name of the relation:** contains
- b. **Names of the Attributes:**  
transaction\_id , upc , quantity
- c. **Domain of each attribute:**  
transaction\_id (INT)  
upc (INT)  
quantity (INT)
- d. **Primary key:** transaction\_id, upc
- e. **Foreign key:**  
foreign key (transaction\_id) references transactions(transaction\_id),  
foreign key (upc) references products(upc)