­­­ADMIN (agent)

PRIMARY KEY = (agent)

USER (userId, name, password, token, role)

PRIMARY KEY = (userId)

PURCHASE HISTORY (purchaseId, purchaseTime)

PRIMARY KEY = (purchaseId)

PRODUCT (productid, originalPrice, discountPrice, name, category, store, updateTime)

PRIMARY KEY = (productid)

PRODUCT CATEGORY (categoryId, categoryName)

PRIMARY KEY = (categoryId)

Management (agent, userId)

PRIMARY KEY = (agent, userId)

FOREIGN KEY1= (agent) REFERENCES ­­­ADMIN (agent)

FOREIGN KEY2= (userId) REFERENCES USER (userId)

Addition (userId, purchaseId)

PRIMARY KEY = (userId, purchaseId)

FOREIGN KEY1= (userId) REFERENCES USER (userId)

FOREIGN KEY2= (purchaseId) REFERENCES PURCHASE HISTORY (purchaseId)

Inclusion (purchaseId, productId)

PRIMARY KEY = (purchaseId, productId)

FOREIGN KEY1= (purchaseId) REFERENCES PURCHASE HISTORY (purchaseId)

FOREIGN KEY2= (productId) REFERENCES PRODUCT (productId)

Belonging (productid, categoryId)

PRIMARY KEY = (productid, categoryId)

FOREIGN KEY1= (productId) REFERENCES PRODUCT (productId)

FOREIGN KEY2= (categoryId) REFERENCES PRODUCT CATEGORY (categoryId)

sql:

-- Admin

CREATE TABLE admin (

agent VARCHAR(255) PRIMARY KEY

);

-- User

CREATE TABLE user (

id VARCHAR(255) PRIMARY KEY,

name VARCHAR(255),

password VARCHAR(255),

token VARCHAR(255),

role VARCHAR(50),

INDEX idx\_role(role)

);

-- Purchase History

CREATE TABLE purchase\_history (

id VARCHAR(255) PRIMARY KEY,

purchase\_time TIMESTAMP,

INDEX idx\_purchase\_time(purchase\_time)

);

-- Product

CREATE TABLE product (

id VARCHAR(255) PRIMARY KEY,

original\_price DECIMAL(10, 2),

discount\_price DECIMAL(10, 2),

name VARCHAR(255),

category VARCHAR(255),

store VARCHAR(255),

update\_time TIMESTAMP,

INDEX idx\_category(category),

INDEX idx\_update\_time(update\_time)

);

-- Product Category

CREATE TABLE product\_category (

id VARCHAR(255) PRIMARY KEY,

category\_name VARCHAR(255)

);

-- Management

CREATE TABLE management (

agent VARCHAR(255),

user\_id VARCHAR(255),

PRIMARY KEY (agent, user\_id),

INDEX idx\_management\_user\_id(user\_id),

FOREIGN KEY (agent) REFERENCES admin(agent),

FOREIGN KEY (user\_id) REFERENCES user(id)

);

-- Addition

CREATE TABLE addition (

user\_id VARCHAR(255),

purchase\_id VARCHAR(255),

PRIMARY KEY (user\_id, purchase\_id),

INDEX idx\_addition\_user\_id(user\_id),

FOREIGN KEY (user\_id) REFERENCES user(id),

FOREIGN KEY (purchase\_id) REFERENCES purchase\_history(id)

);

-- Inclusion

CREATE TABLE inclusion (

purchase\_id VARCHAR(255),

product\_id VARCHAR(255),

PRIMARY KEY (purchase\_id, product\_id),

INDEX idx\_inclusion\_purchase\_id(purchase\_id),

FOREIGN KEY (purchase\_id) REFERENCES purchase\_history(id),

FOREIGN KEY (product\_id) REFERENCES product(id)

);

-- Belonging

CREATE TABLE belonging (

product\_id VARCHAR(255),

category\_id VARCHAR(255),

PRIMARY KEY (product\_id, category\_id),

INDEX idx\_belonging\_product\_id(product\_id),

FOREIGN KEY (product\_id) REFERENCES product(id),

FOREIGN KEY (category\_id) REFERENCES product\_category(id)

);