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**1. 테이블 생성**

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1) user

**테이블 생성**

CREATE TABLE USER  
(  
UserId VARCHAR2(20) NOT NULL,  
UserName   VARCHAR2(10) NOT NULL,  
Age           NUMBER NULL,  
Region       VARCHAR2(10) NULL,  
Phone       VARCHAR2(20) NULL,  
CONSTRAINTS PK\_USER PRIMARY KEY(UserId)  
);

2) Product

**테이블생성**

CREATE TABLE PRODUCT  
(  
ProductId NUMBER NOT NULL,  
ProductName     VARCHAR2(10) NOT NULL,  
Price               NUMBER NULL,  
CONSTRAINTS PK\_Product PRIMARY KEY(ProductId)  
);  
​

3) Purchase

**테이블생성**

CREATE TABLE PURCHASE  
(  
PurchaseId   NUMBER NOT NULL,  
UserId             VARCHAR2(20)   NOT NULL,  
ProductId         NUMBER             NOT NULL,  
TimeStamp         CHAR(15) NOT NULL,  
CONSTRAINTS PK\_Purchase PRIMARY KEY(PurchaseId)  
);  
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**2. 고객별 구매금액 총액 조회**

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SELECT U.UserId, sum(P.Price) Total  
FROM EDU\_USER U, EDU\_PRODUCT P, EDU\_PURCHASE C  
WHERE U.UserId = C.UserId  
AND P.ProductId = C.ProductId  
GROUP BY U.UserId;  
​  
--RevId 추가 후  
​  
SELECT U.UserId, sum(P.Price) Total  
FROM EDU\_USER U, EDU\_PRODUCT P, EDU\_PURCHASE C  
WHERE U.UserId = C.UserId  
AND U.RevId = 0  
AND P.ProductId = C.ProductId  
AND P.RevId = 0  
GROUP BY U.UserId;

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**3. 구매가능 아이템 추가**

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INSERT INTO PRODUCT(ProductId,ProductName,Price) VALUES(5,'형광펜',750);  
​  
--RevId 추가 후  
INSERT INTO PRODUCT(ProductId,RevId,ProductName,Price,MaxRevId) VALUES(5,0,'형광펜',750,1);  
INSERT INTO PRODUCT(ProductId,RevId,ProductName,Price,MaxRevId) VALUES(5,1,'형광펜',750,1);​

**4. 해가 지나 나이를 1살씩 증가**

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UPDATE USER  
SET Age = Age+1;  
​  
--RevId 추가 후  
UPDATE USER  
SET Age = Age+1  
AND MaxRevId = MaxRevId+1  
WHERE RevId = 0  
​  
INSERT INTO USER ( UserId, RevId, UserName, Age, Region, Phone, MaxRevId)  
SELECT UserId, MaxRevId, UserName, Age, Region, Phone, MaxRevId  
FROM USER  
WHERE RevId = 0;

**5. 나이 대신 출생연도를 관리**

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ALTER TABLE EDU\_USER MODIFY( Age NUMBER(10));  
​  
UPDATE EDU\_USER  
SET AGE = (SELECT EXTRACT(YEAR FROM SYSDATE)  
          FROM dual) - Age + 1

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**6. 가격이 결정되지 않은 신규물품 추가할 경우,   
테이블 구조 OR 데이터 어떻게 변경**

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ALTER TABLE EDU\_PRODUCT MODIFY( PRICE NULL);  
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**7. 지우개가 800원에서 1.25달러로 변경**

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ALTER TABLE EDU\_PRODUCT ADD CURRENCY CHAR(4) NULL;  
ALTER TABLE EDU\_PRODUCT MODIFY (PRICE NUMBER);  
​  
UPDATE EDU\_PRODUCT  
SET CURRENCY = 'KRW'  
​  
UPDATE EDU\_PRODUCT   
SET PRICE = 1.25  
, CURRENY = 'USD'  
WHERE PRODUCTNAME = '지우개';  
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**8. ITS 이력관리 기준에 맞게 테이블 변경**

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1) user

CREATE TABLE USER  
(  
UserId               VARCHAR2(10) NOT NULL,  
RevId NUMBER(4) NOT NULL,  
UserName       VARCHAR2(10) NOT NULL,  
Age                 NUMBER(10) NULL,  
Region               VARCHAR2(10) NULL,  
Phone               VARCHAR2(20) NULL,  
 MaxRevId NUMBER(4) NOT NULL,  
CONSTRAINTS PK\_USER PRIMARY KEY(UserId,RevId)  
);

2) Product

CREATE TABLE PRODUCT  
(  
ProductId           NUMBER(8)         NOT NULL,  
RevId NUMBER(4) NOT NULL,  
ProductName       VARCHAR2(10) NOT NULL,  
Price               NUMBER(10) NULL,  
 MaxRevId NUMBER(4) NOT NULL,  
CONSTRAINTS PK\_Product PRIMARY KEY(ProductId,RevId)  
);  
​

3) Purchase

CREATE TABLE PURCHASE  
(  
PurchaseId           NUMBER(10)     NOT NULL,  
RevId NUMBER(4) NOT NULL,  
UserId               VARCHAR2(10)   NOT NULL,  
ProductId           NUMBER(8) NOT NULL,  
TimeStamp       CHAR(15) NOT NULL,  
MaxRevId NUMBER(4) NOT NULL,  
CONSTRAINTS PK\_Purchase PRIMARY KEY(PurchaseId,RevId)  
);  
​