

SEQUENCE

[정의] 일련번호(고유성) 생성기

[용도] 의미가 없지만 고유성을 식별하는 일련번호(ex 접수번호,배송번호,등록번호)에 사용

일련번호 자동생성 방식: ① MAX(SEQ) + 1 방식 ,
 ② 채번 TABLE 방식
 ③ SEQUENCE

① CREATE SEQUENCE SCOTT.ORDER_SEQ

```
INCREMENT BY      1
START WITH        1
MAXVALUE          999999999999
MINVALUE          1
NOCYCLE
CACHE              30;
```

② SELECT ORDER_SEQ.CURRVAL FROM DUAL; // ??

③ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;
 SELECT ORDER_SEQ.CURRVAL FROM DUAL;
 SELECT ORDER_SEQ.CURRVAL FROM DUAL;
 ROLLBACK; // ??

④ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;
 SELECT ORDER_SEQ.NEXTVAL FROM DUAL;

⑤ SELECT EMPNO,ENAME,ORDER_SEQ.NEXTVAL FROM EMP;

Connect scott/tiger	Connect scott/tiger
⑥ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;	⑦ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;
⑧ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;	⑨ SELECT ORDER_SEQ.NEXTVAL FROM DUAL;
⑩ SELECT ORDER_SEQ.CURRVAL FROM DUAL;	⑪ SELECT ORDER_SEQ.CURRVAL FROM DUAL;
	⑫ SELECT ORDER_SEQ.CURRVAL FROM DUAL;
⑬ SELECT ORDER_SEQ.CURRVAL FROM DUAL;	

// 테이블과는 독립적으로 생성되고 사용된다.

여러 세션(여러 Application)에서 독립적으로 동시에 사용하는 공용 오브젝트

ED C:\W03_SQL\WORDER_TBL.SQL

```

DROP TABLE    SCOTT.ORDERS;

CREATE TABLE    SCOTT.ORDERS                                // ORDER 테이블명을 사용할수 없는 이유는?
( ORDER_ID      NUMBER(12)  CONSTRAINT ORDER_ID_PK PRIMARY KEY,
  ORDER_DATE    DATE        DEFAULT SYSDATE CONSTRAINT ORDER_DATE_NN NOT NULL,
  ORDER_MODE    VARCHAR2(8)  CONSTRAINT ORDER_MODE_CHK CHECK(ORDER_MODE IN ('direct','online')),
  CUSTOMER_ID   NUMBER(6)    CONSTRAINT ORDER_CUSTOMER_ID_NN NOT NULL,
  ORDER_STATUS  NUMBER(2),   -- 0: 주문중 , 1: 주문완료, 2: 취소 , 3: 발송 4: 수취
  SALES_ID      NUMBER(6),   -- 판매사원번호
  CONSTRAINT ORDER_SALES_ID_FK FOREIGN KEY(SALES_ID) REFERENCES SCOTT.EMP(EMPNO)
);
DESC SCOTT.ORDERS

```

@ C:\W03_SQL\WORDER_TBL.SQL

// EMP 테이블의 EMPNO 컬럼에 필요시 p.k 제약사항 추가

- ① INSERT INTO ORDERS(ORDER_ID,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)
VALUES(ORDER_SEQ.NEXTVAL,'direct',166,1,7499);
- ② INSERT INTO SCOTT.ORDERS(ORDER_ID,ORDER_DATE,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)
VALUES(SCOTT.ORDER_SEQ.NEXTVAL,SYSDATE,'online',200,3,7521);
- ③ COMMIT;
- ④ INSERT INTO ORDERS(ORDER_ID,ORDER_DATE,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)
VALUES(ORDER_SEQ.NEXTVAL,SYSDATE,'online',135,2,7844);
- ⑤ ROLLBACK; // ORDER_SEQ.NEXTVAL도 취소가 되는지?
- ⑥ SELECT ORDER_ID FROM ORDERS;
SELECT ORDER_SEQ.CURRVAL FROM DUAL;

// Hole 발생

- ⑦ INSERT INTO ORDERS(ORDER_ID,ORDER_DATE,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)
VALUES(ORDER_SEQ.NEXTVAL,SYSDATE,'direct',135,4,7844);

- ⑧ // MAX+1 방식 , 문제점은 ?

```
INSERT INTO scott.ORDERS(ORDER_ID,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)
```

VALUES((SELECT MAX(ORDER_ID)+1 FROM scott.ORDERS),'direct',335,1,7654);

ED C:\W03_SQLWORDER_ID_TBL.SQL

```
DROP TABLE    SCOTT.ORDER_ID;

CREATE TABLE    SCOTT.ORDER_ID
( ORDER_SEQ      NUMBER(12)
);
INSERT INTO SCOTT.ORDER_ID VALUES(100);
COMMIT;
```

@ C:\W03_SQLW ORDER_ID_TBL.SQL

①

DECLARE

V_ORDER_SEQ NUMBER(12);

BEGIN

SELECT ORDER_SEQ INTO V_ORDER_SEQ

FROM ORDER_ID

FOR UPDATE;

INSERT INTO ORDERS(ORDER_ID,ORDER_MODE,CUSTOMER_ID,ORDER_STATUS,SALES_ID)

VALUES(V_ORDER_SEQ,'direct',3320,2,7677);

UPDATE ORDER_ID SET ORDER_SEQ = ORDER_SEQ +1;

COMMIT;

END;

/

// 에러를 해결 하십시오

[요구]

- ㉠ SEQUENCE의 START 값을 10에서 다시 시작하는 방법은?
- ㉢ 서로 다른 SESSION에서 SEQUENCE를 공유하여 사용해보고 결과 발표
- ㉣ SEQUENCE를 생성하여 00000001, 00000002와 같은 8자리 점수번호를 사용하는 SQL작성 하십시오
- ㉤ 위의 주문(ORDERS) 테이블에 추가해야할 컬럼을 고려해서 스크립트를 수정 하십시오