

0626 | ABAP

SE80 | 0501 | SQL 활용하기

**SFLIGHT DB TABLE을 확인해보자*

**SE11 에서 SORT 조건을 설정해보자*

```
TYPES: BEGIN OF GTY_S_FLIGHT,  
        CARRID TYPE SFLIGHT-CARRID,  
        CONNID TYPE SFLIGHT-CONNID,  
        FLDATE TYPE SFLIGHT-FLDATE,  
        SEATSOCC TYPE SFLIGHT-SEATSOCC,  
END OF GTY_S_FLIGHT.
```

```
DATA GT_FLIGHT TYPE TABLE OF GTY_S_FLIGHT.
```

```
DATA GS_FLIGHT TYPE GTY_S_FLIGHT.
```

```
SELECT CARRID CONNID FLDATE SEATSOCC  
        FROM SFLIGHT  
        INTO TABLE GT_FLIGHT  
        WHERE CARRID = 'LH'  
              AND FLDATE > '20090101'  
        ORDER BY CONNID DESCENDING SEATSOCC ASCENDING.
```

```
LOOP AT GT_FLIGHT INTO GS_FLIGHT.  
    WRITE: / GS_FLIGHT-CARRID,  
           GS_FLIGHT-CONNID,
```

```
GS_FLIGHT-FLDATE,  
GS_FLIGHT-SEATSOCC.
```

```
ENDLOOP.
```

```
BREAK-POINT.
```

CARRID	CONNID	FLDATE	SEATSOCC
LH	2407	2020.12.29	0
LH	2407	2021.01.30	1
LH	2407	2020.11.27	13
LH	2407	2020.09.24	19
LH	2407	2020.10.26	45
LH	2407	2020.08.23	86
LH	2407	2020.04.17	121
LH	2407	2020.02.19	122
LH	2407	2020.01.12	124
LH	2407	2020.06.20	125
LH	2407	2020.03.16	128
LH	2407	2020.05.19	128
LH	2407	2020.05.26	130
LH	2407	2020.06.28	130
LH	2407	2020.07.22	130
LH	2402	2020.12.29	0
LH	2402	2021.01.30	11
LH	2402	2020.10.26	14
LH	2402	2020.08.23	52
LH	2402	2020.11.27	156
LH	2402	2020.09.24	271
LH	2402	2020.06.28	467
LH	2402	2020.06.20	469
LH	2402	2020.02.19	470
LH	2402	2020.05.26	471
LH	2402	2020.01.12	472
LH	2402	2020.03.16	475
LH	2402	2020.04.17	475
LH	2402	2020.05.19	475
LH	2402	2020.07.22	475
LH	0402	2021.01.25	8
LH	0402	2020.12.24	94
LH	0402	2020.11.22	130
LH	0402	2020.10.21	197
LH	0402	2020.09.19	305
LH	0402	2020.06.28	465
LH	0402	2020.05.26	467
LH	0402	2020.07.17	467
LH	0402	2020.05.14	486
LH	0402	2020.04.12	470
LH	0402	2020.06.15	471

SE80 | 0502 | SQL 활용하기

**ALL DOMESTIC CONNECTIONS (COUNTRY OF DEPARTURE = COUNTRY OF ARRIVAL)*

DATA GT_SPFLI TYPE TABLE OF SPFLI.

```
SELECT * FROM SPFLI
```

```
    INTO TABLE GT_SPFLI
```

```
    WHERE COUNTRYFR = SPFLI~COUNTRYTO.
```

BREAK-POINT.

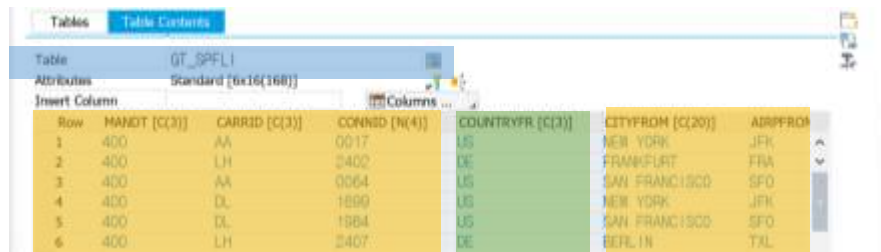


Table: GT_SPFLI
Attributes: Standard [6x16(168)]

Row	MANDT [C(3)]	CARRID [C(3)]	CONNID [N(4)]	COUNTRYFR [C(3)]	CITYFROM [C(20)]	ADRPFROM
1	400	AA	0017	US	NEW YORK	JFK
2	400	LH	2402	DE	FRANKFURT	FRA
3	400	AA	0064	US	SAN FRANCISCO	SFO
4	400	DL	1699	US	NEW YORK	JFK
5	400	DL	1984	US	SAN FRANCISCO	SFO
6	400	LH	2407	DE	BERLIN	TXL

SE80 | 0503 | SQL 활용하기 | ALIAS 사용하기

DATA GT_SPFLI TYPE TABLE OF SPFLI.

```
SELECT * FROM SPFLI AS A
```

```
    INTO TABLE GT_SPFLI
```

```
    WHERE COUNTRYFR = A~COUNTRYTO.
```

BREAK-POINT.

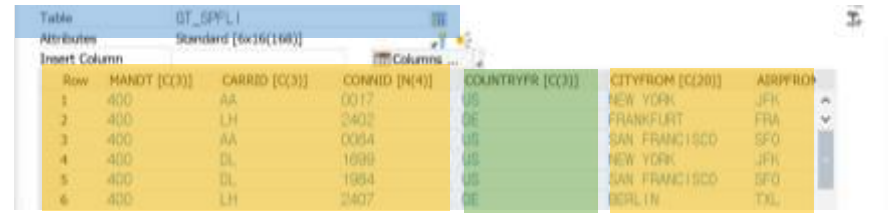


Table: GT_SPFLI
Attributes: Standard [6x16(168)]

Row	MANDT [C(3)]	CARRID [C(3)]	CONNID [N(4)]	COUNTRYFR [C(3)]	CITYFROM [C(20)]	ADRPFROM
1	400	AA	0017	US	NEW YORK	JFK
2	400	LH	2402	DE	FRANKFURT	FRA
3	400	AA	0064	US	SAN FRANCISCO	SFO
4	400	DL	1699	US	NEW YORK	JFK
5	400	DL	1984	US	SAN FRANCISCO	SFO
6	400	LH	2407	DE	BERLIN	TXL

SE80 | 0504 | SQL 활용하기 | ALIAS 사용하기

**ALL FLIGHTS WITH FULL BUSINESS CLASS, BUT AVAILABLE SEATS IN ECONOMY CLASS*

DATA GT_FLIGHT TYPE TABLE OF SFLIGHT.

```
SELECT * FROM SFLIGHT AS A
```

```
    INTO TABLE GT_FLIGHT
```

```
    WHERE SEATSOCC_B = A~SEATSMAX_B
```

```
    AND SEATSOCC < A~SEATSMAX.
```

BREAK-POINT.

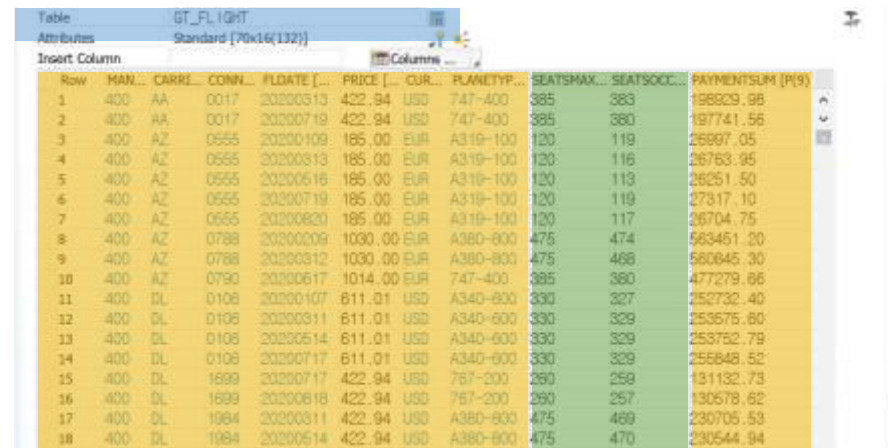


Table: GT_FLIGHT
Attributes: Standard [70x16(132)]

Row	MANDT	CARRID	CONNID	FLDATE	PRICE	CUR	PLANETYP	SEATSMAX	SEATSOCC	PAYMENTSUM
1	400	AA	0017	20200313	422.94	USD	747-400	385	383	198929.98
2	400	AA	0017	20200719	422.94	USD	747-400	385	380	197741.56
3	400	AZ	0555	20200109	185.00	EUR	A319-100	120	119	26997.05
4	400	AZ	0555	20200313	185.00	EUR	A319-100	120	116	26763.95
5	400	AZ	0555	20200516	185.00	EUR	A319-100	120	113	26251.50
6	400	AZ	0555	20200719	185.00	EUR	A319-100	120	119	27317.10
7	400	AZ	0555	20200620	185.00	EUR	A319-100	120	117	26704.75
8	400	AZ	0788	20200209	1030.00	EUR	A380-800	475	474	563451.20
9	400	AZ	0788	20200312	1030.00	EUR	A380-800	475	468	560645.30
10	400	AZ	0790	20200617	1014.00	EUR	747-400	385	380	477279.66
11	400	DL	0106	20200107	611.01	USD	A340-600	330	327	252732.40
12	400	DL	0106	20200311	611.01	USD	A340-600	330	329	253575.60
13	400	DL	0106	20200514	611.01	USD	A340-600	330	329	253752.79
14	400	DL	0106	20200717	611.01	USD	A340-600	330	329	255848.52
15	400	DL	1699	20200717	422.94	USD	767-200	260	258	131132.73
16	400	DL	1699	20200818	422.94	USD	767-200	260	257	130578.62
17	400	DL	1984	20200311	422.94	USD	A380-800	475	469	230705.53
18	400	DL	1984	20200514	422.94	USD	A380-800	475	470	230544.94

SE80 | 0505 | SQL 활용하기

```
DATA: GV_MAX TYPE SFLIGHT-SEATSMAX,  
      GV_OCC TYPE SFLIGHT-SEATSOCC.
```

```
SELECT SINGLE SEATSMAX SEATSOCC  
      FROM SFLIGHT INTO (GV_MAX , GV_OCC)  
      WHERE SEATSMAX = 30.
```

BREAK-POINT.

SE80 | 0506 | SQL 활용하기

```
DATA GS_STRUCT TYPE SFLIGHT.
```

```
SELECT SINGLE SEATSMAX SEATSOCC  
      FROM SFLIGHT  
      INTO (GS_STRUCT-SEATSMAX, GS_STRUCT-SEATSOCC)  
      WHERE SEATSMAX > 21.
```

```
SELECT SINGLE SEATSMAX SEATSOCC  
      FROM SFLIGHT  
      INTO CORRESPONDING FIELDS OF GS_STRUCT  
      WHERE SEATSMAX < 31.
```

BREAK-POINT.

SE80 | 0507 | SQL 활용하기

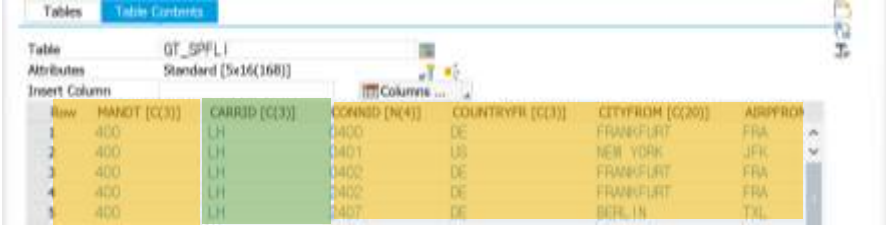
```
DATA GT_SPFLI TYPE TABLE OF SPFLI.
```

```
SELECT *  
      FROM SPFLI  
      INTO TABLE GT_SPFLI  
      WHERE CARRID = 'LH'.
```

```
SELECT CITYFROM CITYTO COUNTRYFR  
      FROM SPFLI  
      INTO CORRESPONDING FIELDS OF TABLE GT_SPFLI  
      WHERE COUNTRYFR = 'US'.
```

```
SELECT CITYFROM CITYTO COUNTRYFR  
      FROM SPFLI  
      APPENDING CORRESPONDING FIELDS OF TABLE GT_SPFLI  
      WHERE COUNTRYFR = 'US'.
```

BREAK-POINT.



Row	MAHOT (C(3))	CARRID (C(3))	CONNRD (N(4))	COUNTRYFR (C(3))	CITYFROM (C(20))	AIRPFROM
1	400	LH	3400	DE	FRANKFURT	FRA
2	400	LH	3401	US	NEW YORK	JFK
3	400	LH	3402	DE	FRANKFURT	FRA
4	400	LH	3402	DE	FRANKFURT	FRA
5	400	LH	3407	DE	BERLIN	TXL

Table GT_SPFLI						
Attributes Standard (9x16(168))						
Row	CONNID (N(4))	COUNTRYFR (C(3))	CITYFROM (C(20))	AIRFROM (C(3))	COUNTRYTO (C(3))	C
1	0000	US	NEW YORK			5
2	0000	US	SAN FRANCISCO			NI
3	0000	US	NEW YORK			FI
4	0000	US	NEW YORK			5
5	0000	US	SAN FRANCISCO			NI
6	0000	US	NEW YORK			FI
7	0000	US	SAN FRANCISCO			5
8	0000	US	SAN FRANCISCO			FI
9	0000	US	NEW YORK			FI

SE80 | 0508 | SQL 활용하기 | JOIN

*JOIN 실습

*SCARR 과 SPFLI 에 있는 필드를 비교하자

DATA: BEGIN OF GS_STR,

CARRID TYPE SCARR-CARRID,

CONNID TYPE SPFLI-CONNID,

CARRNAME TYPE SCARR-CARRNAME,

END OF GS_STR.

DATA GT_ITAB LIKE TABLE OF GS_STR.

SELECT A~CARRID CONNID CARRNAME

INTO CORRESPONDING FIELDS OF TABLE GT_ITAB

FROM SCARR AS A INNER JOIN SPFLI AS B

ON A~CARRID = B~CARRID.

BREAK-POINT.

Table GT_ITAB			
Attributes Standard (26x3(54))			
Row	CARRID (C(3))	CONNID (N(4))	CARRNAME (C(20))
1	AA	0017	American Airlines
2	AA	0064	American Airlines
3	AZ	0555	Alitalia
4	AZ	0789	Alitalia
5	AZ	0798	Alitalia
6	AZ	0790	Alitalia
7	DL	0108	Delta Airlines
8	DL	1699	Delta Airlines
9	DL	1984	Delta Airlines
10	LH	0400	Lufthansa
11	LH	2402	Lufthansa
12	LH	0402	Lufthansa
13	LH	0401	Lufthansa
14	LH	2407	Lufthansa
15	JL	0407	Japan Airlines
16	JL	0408	Japan Airlines
17	GF	0005	Gantas Airways
18	GF	0006	Gantas Airways
19	SQ	0015	Singapore Airlines
20	SQ	0002	Singapore Airlines
21	SQ	0158	Singapore Airlines
22	SQ	0988	Singapore Airlines
23	UA	0041	United Airlines

SE80 | 0509 | SQL 예제 1

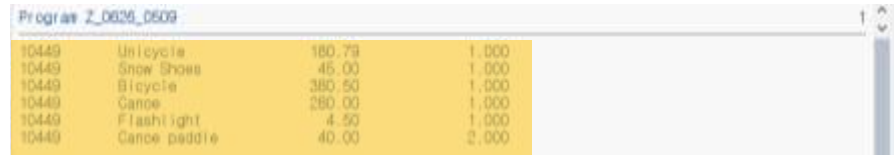
*1. 고객id가 10449인 고객이 주문한 내역을 검색하여,
고객 id, 물품이름, 주문 수량, 단가를 출력하라.

```
DATA: BEGIN OF GS_STR,  
      ZCID TYPE ZORDERS-ZCID,  
      ZITEM TYPE ZORDERS-ZITEM,  
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,  
      ZPRICE TYPE ZORDERS-ZPRICE,  
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZCID ZITEM ZQUANTITY ZPRICE  
      FROM ZORDERS  
      INTO TABLE GT_TAB  
      WHERE ZCID = '10449'.
```

```
LOOP AT GT_TAB INTO GS_STR.  
      WRITE: / GS_STR-ZCID,  
             GS_STR-ZITEM,  
             GS_STR-ZPRICE,  
             GS_STR-ZQUANTITY.  
ENDLOOP.
```



Program Z_0626_0509			
10449	Unicycle	180.79	1.000
10449	Snow Shoes	45.00	1.000
10449	Bicycle	380.50	1.000
10449	Canoe	260.00	1.000
10449	Flashlight	4.50	1.000
10449	Canoe paddle	40.00	2.000

SE80 | 0510 | SQL 예제 2

*2. Tent를 주문한 모든 주문 정보를 orders로 부터 출력하라.

```
DATA: BEGIN OF GS_STR,  
      ZCID TYPE ZORDERS-ZCID,  
      ZODATE TYPE ZORDERS-ZODATE,  
      ZITEM TYPE ZORDERS-ZITEM,  
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,  
      ZPRICE TYPE ZORDERS-ZPRICE,  
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZCID ZODATE ZITEM ZQUANTITY ZPRICE  
      FROM ZORDERS  
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB  
      WHERE ZITEM = 'Tent'.
```

```
LOOP AT GT_TAB INTO GS_STR.  
      WRITE: / GS_STR-ZCID,  
             GS_STR-ZODATE,
```

```

GS_STR-ZITEM,
GS_STR-ZQUANTITY,
GS_STR-ZPRICE.

```

ENDLOOP.

Program Z_0026_0510

10439	2012.01.18 Tent	1.000	70.99
10439	2011.09.18 Tent	1.000	88.00

SE80 | 0511 | SQL 예제 3

*3. "S"로 시작되는 물품이름에 대한 주문 내역
(주문고객 id, 주문날짜, 주문 수량, 단가, 주문액)을 출력하라.

```

DATA: BEGIN OF GS_STR,
      ZCID TYPE ZORDERS-ZCID,
      ZODATE TYPE ZORDERS-ZODATE,
      ZITEM TYPE ZORDERS-ZITEM,
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,
      ZPRICE TYPE ZORDERS-ZPRICE,
      ZSUM TYPE P DECIMALS 2,
END OF GS_STR.

```

DATA GT_TAB LIKE TABLE OF GS_STR.

```

SELECT ZCID, ZODATE, ZITEM, ZQUANTITY, ZPRICE, ZQUANTITY * ZP
RICE AS ZSUM
FROM ZORDERS

```

```

INTO CORRESPONDING FIELDS OF TABLE @GT_TAB
WHERE ZITEM LIKE 'S%'.

```

LOOP AT GT_TAB INTO GS_STR.

```

WRITE: / GS_STR-ZCID,
        GS_STR-ZODATE,
        GS_STR-ZITEM,
        GS_STR-ZQUANTITY,
        GS_STR-ZPRICE,
        GS_STR-ZSUM.

```

ENDLOOP.

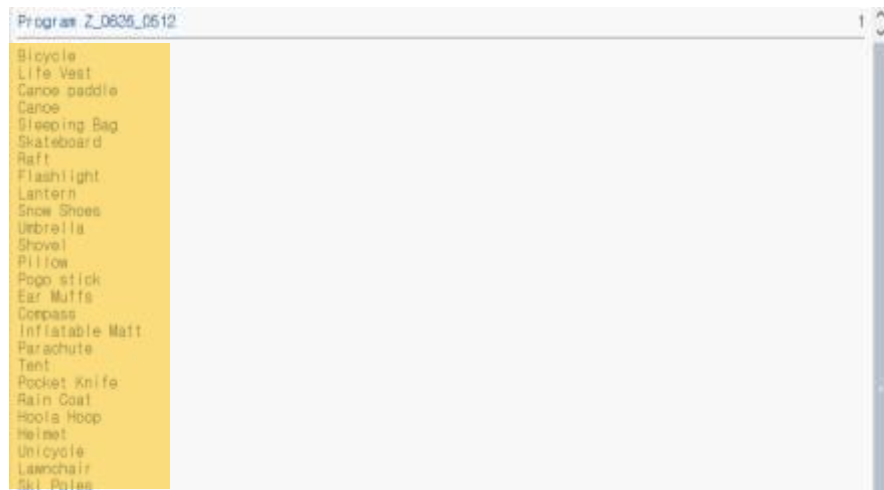
Report Z_0026_0511

10101	2012.03.08 Sleeping Bag	2.000	88.70	177.40
10298	2011.07.01 Skateboard	1.000	33.00	33.00
10330	2012.04.19 Shovel	1.000	16.75	16.75
10410	2011.10.28 Sleeping Bag	1.000	89.22	89.22
10439	2011.06.14 Ski Poles	2.000	25.50	51.00
10449	2011.09.01 Snow Shoes	1.000	45.00	45.00

SE80 | 0512 | SQL 예제 4

*4. 모든 종류의 주문 물품을 중복 없이 보여라.

```
DATA: BEGIN OF GS_STR,  
        ZITEM TYPE ZORDERS-ZITEM,  
    END OF GS_STR.  
DATA GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT DISTINCT ZITEM  
    FROM ZORDERS  
    INTO CORRESPONDING FIELDS OF TABLE GT_TAB.  
  
LOOP AT GT_TAB INTO GS_STR.  
    WRITE: / GS_STR-ZITEM.  
ENDLOOP.
```



SE80 | 0513 | SQL 예제 5

*5. 고객테이블에서 고객들의 lname, fname, state를 보이되, state순으로 보이고, 동일한 state 거주고객은 lname의 오름차순으로 보여라.

```
DATA: BEGIN OF GS_STR,  
        ZFNAME TYPE ZCUSTOMERS-ZFNAME,  
        ZLNAME TYPE ZCUSTOMERS-ZLNAME,  
        ZSTATE TYPE ZCUSTOMERS-ZSTATE,  
    END OF GS_STR.  
  
DATA GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT ZFNAME ZLNAME ZSTATE  
    FROM ZCUSTOMERS  
    INTO CORRESPONDING FIELDS OF TABLE GT_TAB  
    ORDER BY ZSTATE ZLNAME ASCENDING.
```

```
LOOP AT GT_TAB INTO GS_STR.  
    WRITE: / GS_STR-ZFNAME,  
            GS_STR-ZLNAME,  
            GS_STR-ZSTATE.  
ENDLOOP.
```

Report Z_0626_0513

Elroy	Cleaver	Arizona
Donald	David	Arizona
Isabela	Moore	Arizona
Linda	Sakahara	Arizona
Conrad	Giles	Colorado
Kevin	Smith	Colorado
Kelly	Mendoza	Hawaii
Elroy	Keller	Idaho
Ginger	Schultz	Idaho
Sarah	Graham	North Carolina
Shawn	Dalton	Oregon
Michael	Howell	Oregon
Mary Ann	Howell	South Carolina
Leroy	Brown	Washington
John	Gray	Washington
Anthony	Sanchez	Washington
Lisa	Jones	Wisconsin

SE80 | 0514 | SQL 예제 6

*6. 주문 물품 순으로 주문내역을 보여라. 동일한 물품에 대해서는 주문수량이 큰 것부터 보여라.

```
DATA: BEGIN OF GS_STR,
      ZCID TYPE ZORDERS-ZCID,
      ZODATE TYPE ZORDERS-ZODATE,
      ZITEM TYPE ZORDERS-ZITEM,
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,
      ZPRICE TYPE ZORDERS-ZPRICE,
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZCID ZODATE ZITEM ZQUANTITY ZPRICE
      FROM ZORDERS
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB
```

ORDER BY ZITEM ZQUANTITY DESCENDING.

```
LOOP AT GT_TAB INTO GS_STR.
```

```
WRITE: / GS_STR-ZCID,
      GS_STR-ZODATE,
      GS_STR-ZITEM,
      GS_STR-ZQUANTITY,
      GS_STR-ZPRICE.
```

```
ENDLOOP.
```

Report Z_0626_0514

10449	2011.12.15	Bicycle	1.000	360.50
10449	2011.12.22	Canoe	1.000	260.00
10449	2012.03.19	Canoe paddle	2.000	40.00
10315	2012.02.02	Compass	1.000	8.00
10298	2012.04.01	Ear Muffs	1.000	12.50
10330	2012.01.01	Flashlight	4.000	28.00
10449	2012.02.29	Flashlight	1.000	4.50
10298	2011.12.01	Helmet	1.000	22.00
10101	2011.12.30	Hoola Hoop	3.000	14.75
10299	2012.01.18	Inflatable Matt	1.000	38.00
10298	2011.09.19	Lantern	2.000	29.00
10101	2012.03.08	Lantern	1.000	16.00
10413	2012.01.19	Lawchair	4.000	32.00
10101	2011.07.01	Life Vest	4.000	125.00
10299	2011.07.06	Parachute	1.000	1,250.00
10436	2011.11.02	Pillow	1.000	8.50
10298	2012.03.18	Pocket Knife	1.000	22.38
10330	2011.06.30	Pogo stick	1.000	28.00
10101	2011.06.30	Raft	1.000	58.00
10101	2011.08.18	Rain Coat	1.000	18.30
10330	2012.04.19	Shovel	1.000	16.75
10298	2011.07.01	Skateboard	1.000	33.00
10439	2011.08.14	Ski Poles	2.000	25.50
10101	2012.03.08	Sleeping Bag	2.000	88.70
10410	2011.10.28	Sleeping Bag	1.000	89.22
10449	2011.09.01	Snow Shoes	1.000	45.00
10436	2012.01.18	Tent	1.000	79.99
10439	2011.09.18	Tent	1.000	88.00
10436	2011.11.01	Umbrella	1.000	6.75
10339	2011.07.27	Umbrella	1.000	4.50
10410	2012.01.30	Unicycle	1.000	192.50
10449	2011.08.13	Unicycle	1.000	180.79

SE80 | 0515 | SQL 예제 7

*7. 주문액(수량×가격)이 \$100.00이상인 주문에 대한 물품이름과 단가 및 주문수량을 보여라. 단 주문액이 큰 순서부터 보여라.

```
DATA: BEGIN OF GS_STR,  
      ZITEM TYPE ZORDERS-ZITEM,  
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,  
      ZPRICE TYPE ZORDERS-ZPRICE,  
      ZTOTAL TYPE P DECIMALS 2 ,  
END OF GS_STR.  
  
DATA GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT ZITEM, ZQUANTITY, ZPRICE, ZQUANTITY * ZPRICE AS ZTOTAL  
      FROM ZORDERS  
      WHERE ZQUANTITY * ZPRICE >= 100  
      ORDER BY ZTOTAL DESCENDING  
      INTO CORRESPONDING FIELDS OF TABLE @GT_TAB.  
  
LOOP AT GT_TAB INTO GS_STR.  
      WRITE: / GS_STR-ZITEM,  
             GS_STR-ZQUANTITY.  
ENDLOOP.
```



Parachute	1.000
Life Vest	4.000
Bicycle	1.000
Canoe	1.000
Unicycle	1.000
Sleeping Bag	2.000
Lawnchair	4.000
Flashlight	4.000

SE80 | 0516 | SQL 예제 8

*8. 'Snow Shoes'와 'Ear Muffs'를 제외한 물품들에 대한 주문내역 (cid, odate, item이름)을 보여라.

```
DATA: BEGIN OF GS_STR,  
      ZCID TYPE ZORDERS-ZCID,  
      ZODATE TYPE ZORDERS-ZODATE,  
      ZITEM TYPE ZORDERS-ZITEM,  
END OF GS_STR.  
  
DATA GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT ZCID ZODATE ZITEM  
      FROM ZORDERS  
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB  
      WHERE ZITEM <> 'Snow Shoes' AND ZITEM <> 'Ear Muffs'.  
  
LOOP AT GT_TAB INTO GS_STR.  
      WRITE: / GS_STR-ZCID, GS_STR-ZODATE,  
             GS_STR-ZITEM.  
ENDLOOP.
```

Report Z_0626_0516		
10101	2011.06.30	Raft
10101	2011.07.01	Life Vest
10101	2011.08.18	Rain Coat
10101	2011.12.30	Hoola Hoop
10101	2012.03.08	Lantern
10101	2012.03.08	Sleeping Bag
10298	2011.07.01	Skateboard
10298	2011.09.19	Lantern
10298	2011.12.01	Helmet
10298	2012.03.18	Pocket Knife
10298	2011.07.08	Parachute
10299	2012.01.18	Inflatable Matt
10315	2012.02.02	Compass
10330	2011.06.30	Pogo stick
10330	2012.01.01	Flashlight
10330	2012.04.19	Shovel
10339	2011.07.27	Umbrella
10410	2011.10.28	Sleeping Bag
10410	2012.01.30	Unicycle
10413	2012.01.19	Lawnchair
10438	2011.11.01	Umbrella
10438	2011.11.02	Pillow
10438	2012.01.18	Tent
10439	2011.08.14	Ski Poles
10439	2011.09.18	Tent
10449	2011.08.13	Unicycle
10449	2011.12.15	Bicycle
10449	2011.12.22	Canoe
10449	2012.02.29	Flashlight
10449	2012.03.19	Canoe paddle

SE80 | 0517 | SQL 예제 9

*9. 'S', 'P', 또는 'F'로 시작하는 주문물품들의 이름과 가격을 구하라.

```
DATA: BEGIN OF GS_STR,
      ZITEM TYPE ZORDERS-ZITEM,
      ZPRICE TYPE ZORDERS-ZPRICE,
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZITEM ZPRICE
      FROM ZORDERS
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB
```

```
WHERE ZITEM LIKE 'S%' OR ZITEM LIKE 'F%' OR ZITEM
LIKE 'P%' .
```

```
LOOP AT GT_TAB INTO GS_STR.
```

```
WRITE: / GS_STR-ZITEM,
      GS_STR-ZPRICE.
```

```
ENDLOOP.
```

Report Z_0626_0517		
Sleeping Bag	88.70	
Skateboard	33.00	
Pocket Knife	22.38	
Parachute	1,250.00	
Pogo stick	28.00	
Flashlight	28.00	
Shovel	16.75	
Sleeping Bag	89.22	
Pillow	8.50	
Ski Poles	25.50	
Snow Shoes	45.00	
Flashlight	4.50	

SE80 | 0518 | SQL 예제 10

*10. 가격이 \$10.00 ~ \$80.00인 물품의 주문날짜, 물품이름, 가격을 보여라.

```
DATA: BEGIN OF GS_STR,
      ZODATE TYPE ZORDERS-ZODATE,
      ZITEM TYPE ZORDERS-ZITEM,
      ZPRICE TYPE ZORDERS-ZPRICE,
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```

SELECT ZODATE ZITEM ZPRICE
      FROM ZORDERS
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB
      WHERE ZPRICE BETWEEN 10 AND 80.

```

```

LOOP AT GT_TAB INTO GS_STR.
      WRITE: / GS_STR-ZODATE,
              GS_STR-ZITEM,
              GS_STR-ZPRICE.
ENDLOOP.

```

Report: Z_0628_0518

2011.08.30 Raft	58.00
2011.08.18 Rain Coat	18.30
2011.12.30 Hoola Hoop	14.75
2012.03.08 Lantern	16.00
2011.07.01 Skateboard	33.00
2011.09.19 Lantern	29.00
2011.12.01 Helmet	22.00
2012.03.18 Pocket Knife	22.38
2012.04.01 Ear Muffs	12.50
2012.01.18 Inflatable Matt	38.00
2011.06.30 Pogo stick	28.00
2012.01.01 Flashlight	28.00
2012.04.19 Shovel	16.75
2012.01.19 Lawnchair	32.00
2012.01.18 Tent	79.99
2011.08.14 Ski Poles	25.50
2011.09.01 Snow Shoes	45.00
2012.03.19 Canoe paddle	40.00

SE80 | 0519 | SQL 예제 11

*11. 거주 state가 Arizona, Washington, Oklahoma, Colorado, 또는 Hawaii 인 고객의 fname, city, state 를 state순으로 보여라.

```

DATA: BEGIN OF GS_STR,
      ZFNAME TYPE ZCUSTOMERS-ZFNAME,

```

```

      ZCITY TYPE ZCUSTOMERS-ZCITY,
      ZSTATE TYPE ZCUSTOMERS-ZSTATE,
      END OF GS_STR.

```

```

DATA GT_TAB LIKE TABLE OF GS_STR.

```

```

SELECT ZFNAME ZCITY ZSTATE
      FROM ZCUSTOMERS
      INTO CORRESPONDING FIELDS OF TABLE GT_TAB
      WHERE ZSTATE IN ( 'Arizona', 'Washington', 'Oklahoma', 'Colorado', 'Hawaii' )
      ORDER BY ZSTATE.

```

```

LOOP AT GT_TAB INTO GS_STR.
      WRITE: / GS_STR-ZFNAME,
              GS_STR-ZCITY,
              GS_STR-ZSTATE.
ENDLOOP.

```

Report: Z_0628_0519

Isabela	Yuma	Arizona
Elroy	Globe	Arizona
Linda	Nogales	Arizona
Donald	Gila Bend	Arizona
Kevin	Durango	Colorado
Conrad	Telluride	Colorado
Kelly	Kailua	Hawaii
Leroy	Seattle	Washington
Anthony	Seattle	Washington
John	Seattle	Washington

SE80 | 0520 | SQL 예제 12

*12. 주문내역테이블에서 물품이름, 가격, 그리고 정수로 반올림한 가격, 강제올림한 가격, 강제 내림 한 가격을 보여라.

```
DATA: BEGIN OF GS_STR,
      ZITEM TYPE ZORDERS-ZITEM,
      ZPRICE TYPE ZORDERS-ZPRICE,
      ZROUND TYPE I,
      ZCEIL TYPE I,
      ZFLOOR TYPE I,
      END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZITEM, ZPRICE, ROUND( ZPRICE, 0 ) AS ZROUND ,CEIL( ZPRICE ) AS ZCEIL, FLOOR( ZPRICE ) AS ZFLOOR
      FROM ZORDERS
      INTO CORRESPONDING FIELDS OF TABLE @GT_TAB.
```

```
LOOP AT GT_TAB INTO GS_STR.
      WRITE: / GS_STR-ZITEM,
              GS_STR-ZPRICE,
              GS_STR-ZROUND,
              GS_STR-ZCEIL,
              GS_STR-ZFLOOR.
      ENDLOOP.
```

Report Z_0020_0520

Raft	50.00	50	50	50
Life Vest	125.00	125	125	125
Rain Coat	18.30	18	19	18
Hoola Hoop	14.75	15	15	14
Lantern	16.00	16	16	16
Sleeping Bag	88.70	89	89	88
Skateboard	33.00	33	33	33
Lantern	29.00	29	29	29
Helmet	22.00	22	22	22
Pocket Knife	22.38	22	23	22
Ear Muffs	12.50	13	13	12
Parachute	1,250.00	1,250	1,250	1,250
Inflatable Matt	36.00	36	36	36
Compass	8.00	8	8	8
Pogo stick	28.00	28	28	28
Flashlight	28.00	28	28	28
Shovel	16.75	17	17	16
Umbrella	4.50	5	5	4
Sleeping Bag	89.22	89	90	89
Unicycle	192.50	193	193	192
Lamchair	32.00	32	32	32
Umbrella	6.75	7	7	6
Pillow	8.50	9	9	8
Tent	79.99	80	80	79
Ski Poles	25.50	26	26	25
Tent	88.00	88	88	88
Unicycle	180.79	181	181	180
Snow Shoes	45.00	45	45	45
Bicycle	380.50	381	381	380
Canoe	280.00	280	280	280
Flashlight	4.50	5	5	4
Canoe paddle	40.00	40	40	40

SE80 | 0521 | SQL 예제 13

*13. 물품이름과 주문액(수량x가격)을 구하라.

```
DATA: BEGIN OF GS_STR,
      ZITEM TYPE ZORDERS-ZITEM,
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,
      ZPRICE TYPE ZORDERS-ZPRICE,
      ZTOTAL TYPE P DECIMALS 2 ,
      END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZITEM, ZQUANTITY, ZPRICE, ZQUANTITY * ZPRICE AS ZTOTAL
FROM ZORDERS
INTO CORRESPONDING FIELDS OF TABLE @GT_TAB.
```

```
LOOP AT GT_TAB INTO GS_STR.
WRITE: / GS_STR-ZITEM,
GS_STR-ZTOTAL.
ENDLOOP.
```

Report Z_0625_0521

Raft	58.00
Life Vest	500.00
Rain Coat	18.30
Hoola Hoop	44.25
Lantern	18.00
Sleeping Bag	177.40
Skateboard	33.00
Lantern	58.00
Helmet	22.00
Pocket Knife	22.38
Ear Muffs	12.50
Parachute	1,250.00
Inflatable Matt	38.00
Compass	8.00
Pogo stick	28.00
Flashlight	112.00
Shovel	16.75
Umbrella	4.50
Sleeping Bag	89.22
Unicycle	192.60
Lawnchair	128.00
Umbrella	6.75
Pillow	8.50
Tent	79.99
Ski Poles	51.00
Tent	88.00
Unicycle	180.79
Snow Shoes	45.00
Bicycle	380.60
Canoe	280.00
Flashlight	4.50
Canoe paddle	80.00

SE80 | 0522 | SQL 예제 14

*14. 제일 비싼 주문 물품의 가격은 얼마인가?

```
DATA: BEGIN OF GS_STR,
ZPRICE TYPE ZORDERS-ZPRICE,
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT SINGLE ZPRICE
FROM ZORDERS
WHERE ZPRICE = ( SELECT MAX( ZPRICE ) FROM ZORDERS )
INTO @GS_STR.
```

```
WRITE GS_STR-ZPRICE.
```

*이렇게 풀어도 되긴 하던데 굳이 서브 쿼리 쓰는 이유 물어보기

```
DATA: BEGIN OF GS_STR,
ZITEM TYPE ZORDERS-ZITEM,
ZPRICE TYPE ZORDERS-ZPRICE,
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT SINGLE ZITEM MAX( ZPRICE ) AS ZPRICE
FROM ZORDERS
```

```

    INTO GS_STR
    GROUP BY ZITEM.

```

```

WRITE GS_STR-ZPRICE.

```

Report Z_0626_0522	1
1,250.00	

SE80 | 0523 | SQL 예제 15

*15. 제일 비싼 주문 물품의 이름과 가격을 출력하라.

```

DATA: BEGIN OF GS_STR,
      ZITEM TYPE ZORDERS-ZITEM,
      ZPRICE TYPE ZORDERS-ZPRICE,
    END OF GS_STR.

DATA GT_TAB LIKE TABLE OF GS_STR.

SELECT SINGLE ZITEM, ZPRICE
  FROM ZORDERS
 WHERE ZPRICE = ( SELECT MAX( ZPRICE ) FROM ZORDERS )
        INTO @GS_STR.

```

```

WRITE: / GS_STR-ZITEM, GS_STR-ZPRICE.

```

Report Z_0626_0523	1
Parachute	1,250.00

SE80 | 0524 | SQL 예제 16

*16. 12월에 주문된 물품들의 평균가격은 얼마인가?

```

DATA: BEGIN OF GS_STR,
      ZODATE TYPE ZORDERS-ZODATE,
      ZPRICE TYPE ZORDERS-ZPRICE,
      ZAVG TYPE P DECIMALS 2,
    END OF GS_STR.

DATA GT_TAB LIKE TABLE OF GS_STR.

SELECT ZODATE AVG( ZPRICE ) AS ZAVG
  FROM ZORDERS
 INTO CORRESPONDING FIELDS OF TABLE GT_TAB
 WHERE ZODATE LIKE '___12__'
 GROUP BY ZODATE .

```

```

LOOP AT GT_TAB INTO GS_STR.
WRITE:/ GS_STR-ZAVG.
ENDLOOP.

```

Report Z_0626_0524	1
14.75	
22.00	
980.50	
280.00	

**총 평균*

```
DATA: BEGIN OF GS_STR,  
      ZDATE TYPE ZORDERS-ZDATE,  
      ZPRICE TYPE ZORDERS-ZPRICE,  
      ZAVG TYPE P DECIMALS 2,  
END OF GS_STR.
```

```
DATA GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT AVG( ZPRICE ) AS ZAVG  
      FROM ZORDERS  
      WHERE ZDATE LIKE '____12__'  
      INTO CORRESPONDING FIELDS OF TABLE @GT_TAB.
```

```
LOOP AT GT_TAB INTO GS_STR.
```

```
WRITE:/ GS_STR-ZAVG.
```

```
ENDLOOP.
```



Report Z_0626_0524
174.31

SE80 | 0525 | SQL 예제 17

**17. 주문 수는 모두 몇 건인가?*

```
DATA: BEGIN OF GS_COUNT,  
      ZCOUNT TYPE I,  
END OF GS_COUNT.
```

```
SELECT SINGLE COUNT(*) AS ZCOUNT  
      FROM ZORDERS  
      INTO CORRESPONDING FIELDS OF @GS_COUNT.
```

```
WRITE:/ GS_COUNT-ZCOUNT.
```



Program Z_0626_0525
32

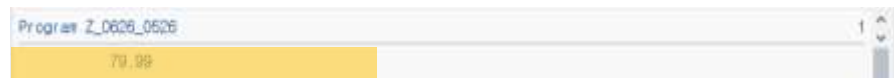
SE80 | 0526 | SQL 예제 18

**18. 텐트 주문 가운데, 가장 싼 가격은 얼마인가?*

```
DATA: BEGIN OF GS_STR,  
      ZITEM TYPE ZORDERS-ZITEM,  
      ZMIN TYPE P DECIMALS 2,  
END OF GS_STR.
```

```
SELECT SINGLE MIN( ZPRICE ) AS ZMIN  
      FROM ZORDERS  
      WHERE ZITEM = 'Tent'  
      INTO CORRESPONDING FIELDS OF @GS_STR.
```

```
WRITE: GS_STR-ZMIN.
```

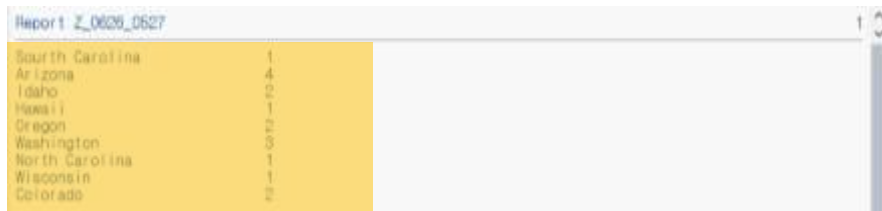


Program Z_0626_0526
79.99

SE80 | 0527 | SQL 예제 19

*19. 각 주에 거주하는 고객의 수를 알고 싶다. 각 주의 이름과 그 주에 거주하는 고객의 수를 출력하라.

```
DATA: BEGIN OF GS_STR,  
        ZSTATE TYPE ZCUSTOMERS-ZSTATE,  
        ZCOUNT TYPE I,  
END OF GS_STR.  
  
DATA: GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT ZSTATE COUNT(*) AS ZCOUNT  
        FROM ZCUSTOMERS  
        INTO CORRESPONDING FIELDS OF TABLE GT_TAB  
        GROUP BY ZSTATE.  
  
LOOP AT GT_TAB INTO GS_STR.  
        WRITE:/ GS_STR-ZSTATE,  
                GS_STR-ZCOUNT.  
ENDLOOP.
```



Report Z_0625_0527	
South Carolina	1
Arizona	4
Idaho	2
Hawaii	1
Oregon	2
Washington	3
North Carolina	1
Wisconsin	1
Colorado	2

SE80 | 0528 | SQL 예제 20

*20. 각 주문 물품별로 주문횟수, 최대가격과 최소가격을 구하라.

*각 고객별 주문 내역을 정리하고 싶다. 고객ID, 주문 횟수, 그리고 주문액의 합계 (즉, 고객별 주문의 수량x가격의 합계)를 출력하라.

```
DATA: BEGIN OF GS_STR,  
        ZITEM TYPE ZORDERS-ZITEM,  
        ZPIRCE TYPE ZORDERS-ZPRICE,  
        ZCOUNT TYPE I,  
        ZMAX TYPE P DECIMALS 2,  
        ZMIN TYPE P DECIMALS 2,  
        ZCID TYPE ZORDERS-ZCID,  
        ZQUANTITY TYPE ZORDERS-ZQUANTITY,  
        ZSUM TYPE P DECIMALS 2,  
END OF GS_STR.  
  
DATA: GT_TAB LIKE TABLE OF GS_STR.  
  
SELECT ZITEM, COUNT(*) AS ZCOUNT, MAX( ZPRICE ) AS ZMAX, MIN(  
ZPRICE ) AS ZMIN  
        FROM ZORDERS  
        INTO CORRESPONDING FIELDS OF TABLE @GT_TAB  
        GROUP BY ZITEM.
```



```

LOOP AT GT_TAB INTO GS_STR.
    WRITE: / GS_STR-ZITEM,
            GS_STR-ZCOUNT,
            GS_STR-ZMAX,
            GS_STR-ZMIN.

ENDLOOP.

WRITE: /.

WRITE: '=====
====='.

WRITE: /.

SELECT ZCID, COUNT(*) AS ZCOUNT, SUM( ZQUANTITY * ZPRICE ) AS ZSUM
FROM ZORDERS
INTO CORRESPONDING FIELDS OF TABLE @GT_TAB
GROUP BY ZCID.

```

```

LOOP AT GT_TAB INTO GS_STR.
    WRITE: / GS_STR-ZCID,
            GS_STR-ZCOUNT,
            GS_STR-ZSUM.

ENDLOOP.

```

Report: Z_0620_0528

Bicycle	1	380.50	380.50
Life Vest	1	125.00	125.00
Canoe Paddle	1	40.00	40.00
Canoe	1	280.00	280.00
Sleeping Bag	2	89.22	89.70
Skateboard	1	33.00	33.00
Raft	1	56.00	56.00
Flashlight	2	28.00	4.50
Lantern	2	29.00	16.00
Snow Shoes	1	45.00	45.00
Umbrella	2	6.75	4.50
Shovel	1	16.75	16.75
Pillow	1	8.50	8.50
Pogo stick	1	28.00	28.00
Ear Muffs	1	12.50	12.50
Compass	1	8.00	8.00
Inflatable Matt	1	36.00	36.00
Parachute	1	1,250.00	1,250.00
Tent	2	88.00	79.99
Pocket Knife	1	22.38	22.38
Rain Coat	1	18.30	18.30
Hoola Hoop	1	14.75	14.75
Helmet	1	22.00	22.00
Unicycle	2	102.50	180.79
Launchair	1	32.00	32.00
Ski Poles	1	25.50	25.50

10410	2	281.72	
10339	1	4.50	
10101	6	813.95	
10315	1	8.00	
10330	3	156.75	
10299	2	1,288.00	
10298	5	147.88	
10413	1	128.00	
10438	3	95.24	
10439	2	139.00	
10449	6	970.79	

SE80 | 0529 | SQL 예제 21

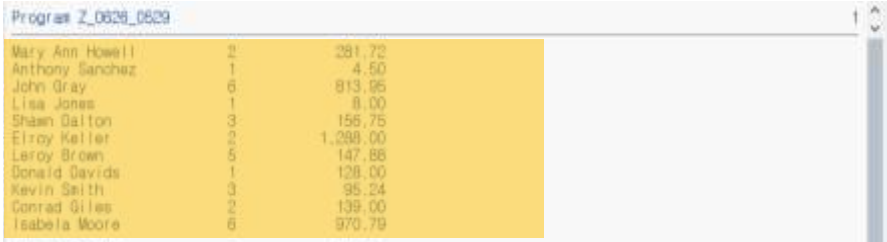
*21. 위 3)질의에 대하여, 고객이름(fname, lname)과 주문 횟수, 주문액의 합계를 출력하라.

```
DATA: BEGIN OF GS_STR,  
      ZFNAME TYPE ZCUSTOMERS-ZFNAME,  
      ZLNAME TYPE ZCUSTOMERS-ZLNAME,  
      ZNAME TYPE N LENGTH 16,  
      ZPIRCE TYPE ZORDERS-ZPRICE,  
      ZCOUNT TYPE I,  
      ZQUANTITY TYPE ZORDERS-ZQUANTITY,  
      ZSUM TYPE P DECIMALS 2,  
END OF GS_STR.
```

```
DATA: GT_TAB LIKE TABLE OF GS_STR.
```

```
SELECT ZFNAME, ZLNAME, A~ZCID, COUNT(*) AS ZCOUNT, SUM( ZQU  
ANTITY * ZPRICE ) AS ZSUM  
      INTO CORRESPONDING FIELDS OF TABLE @GT_TAB  
FROM ZORDERS AS A INNER JOIN ZCUSTOMERS AS B  
ON A~ZCID = B~ZCID  
GROUP BY A~ZCID, ZFNAME, ZLNAME.
```

```
LOOP AT GT_TAB INTO GS_STR.  
      CONCATENATE GS_STR-ZFNAME GS_STR-  
ZLNAME INTO GS_STR-ZNAME SEPARATED BY SPACE.  
      WRITE: / GS_STR-ZNAME,  
              GS_STR-ZCOUNT,  
              GS_STR-ZSUM.  
ENDLOOP.
```



Mary Ann Howell	2	281.72
Anthony Sanchez	1	4.50
John Gray	6	813.95
Lisa Jones	1	8.00
Shawn Galton	3	155.75
Elroy Keller	2	1,288.00
Leroy Brown	5	147.86
Donald Davids	1	128.00
Kevin Smith	3	95.24
Conrad Giles	2	139.00
Isabela Moore	6	970.79

SE80 | 0530 | SQL 예제 22

*22. 2번 이상 주문한 고객의 ID, 주문 횟수, 주문 총액을 구하라.

```
DATA: BEGIN OF GS_STR,
    ZITEM TYPE ZORDERS-ZITEM,
    ZPIRCE TYPE ZORDERS-ZPRICE,
    ZCOUNT TYPE I,
    ZMAX TYPE P DECIMALS 2,
    ZMIN TYPE P DECIMALS 2,
    ZCID TYPE ZORDERS-ZCID,
    ZQUANTITY TYPE ZORDERS-ZQUANTITY,
    ZSUM TYPE P DECIMALS 2,
END OF GS_STR.

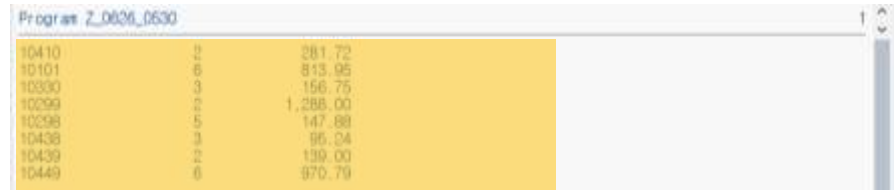
DATA: GT_TAB LIKE TABLE OF GS_STR.

SELECT ZCID, COUNT(*) AS ZCOUNT, SUM( ZQUANTITY * ZPRICE ) AS ZSUM
    FROM ZORDERS
    GROUP BY ZCID
    HAVING COUNT( * ) > 1
    INTO CORRESPONDING FIELDS OF TABLE @GT_TAB.

LOOP AT GT_TAB INTO GS_STR.
    WRITE: / GS_STR-ZCID,
```

```
GS_STR-ZCOUNT,
GS_STR-ZSUM.
```

ENDLOOP.



ZCID	ZCOUNT	ZSUM
10410	2	281.72
10101	6	813.95
10330	3	156.75
10299	5	1,288.00
10298	5	147.88
10438	3	96.04
10439	2	139.00
10449	6	970.79

SE80 | 0531 | SQL 예제 23

*23. 2명 이상의 고객이 거주하는 주(state)의 이름과 거주 고객 수를 구하라.

```
DATA: BEGIN OF GS_STR,
    ZSTATE TYPE ZCUSTOMERS-ZSTATE,
    ZCOUNT TYPE I,
END OF GS_STR.

DATA: GT_TAB LIKE TABLE OF GS_STR.

SELECT ZSTATE COUNT(*) AS ZCOUNT
    FROM ZCUSTOMERS
    INTO CORRESPONDING FIELDS OF TABLE GT_TAB
    GROUP BY ZSTATE
    HAVING COUNT( * ) > 1 .
```

```

LOOP AT GT_TAB INTO GS_STR.
    WRITE:/ GS_STR-ZSTATE,
           GS_STR-ZCOUNT.
ENDLOOP.

```

Report Z_0020_0531

Arizona	4
Idaho	
Oregon	
Washington	
Colorado	

SE80 | 0532 | SQL 예제 24

*24. 최고주문가격이 \$190이상인 물품에 대하여, 물품별 물품명, 최고주문가격, 최소주문가격을 출력하라.

```

DATA: BEGIN OF GS_STR,
        ZITEM TYPE ZORDERS-ZITEM,
        ZPRICE TYPE ZORDERS-ZPRICE,
        ZMAX TYPE P DECIMALS 2,
        ZMIN TYPE P DECIMALS 2,
END OF GS_STR.

```

```
DATA: GT_TAB LIKE TABLE OF GS_STR.
```

```

SELECT ZITEM, MAX( ZPRICE ) AS ZMAX, MIN( ZPRICE ) AS ZMIN
        FROM ZORDERS
        INTO CORRESPONDING FIELDS OF TABLE @GT_TAB
        GROUP BY ZITEM

```

```
HAVING MAX( ZPRICE ) >= 190 .
```

```

LOOP AT GT_TAB INTO GS_STR.
    WRITE: / GS_STR-ZITEM,
           GS_STR-ZMAX,
           GS_STR-ZMIN.
ENDLOOP.

```

Report Z_0020_0532

Bicycle	380.50	380.50
Canoe	280.00	280.00
Parachute	1,250.00	1,250.00
Unicycle	190.50	180.70