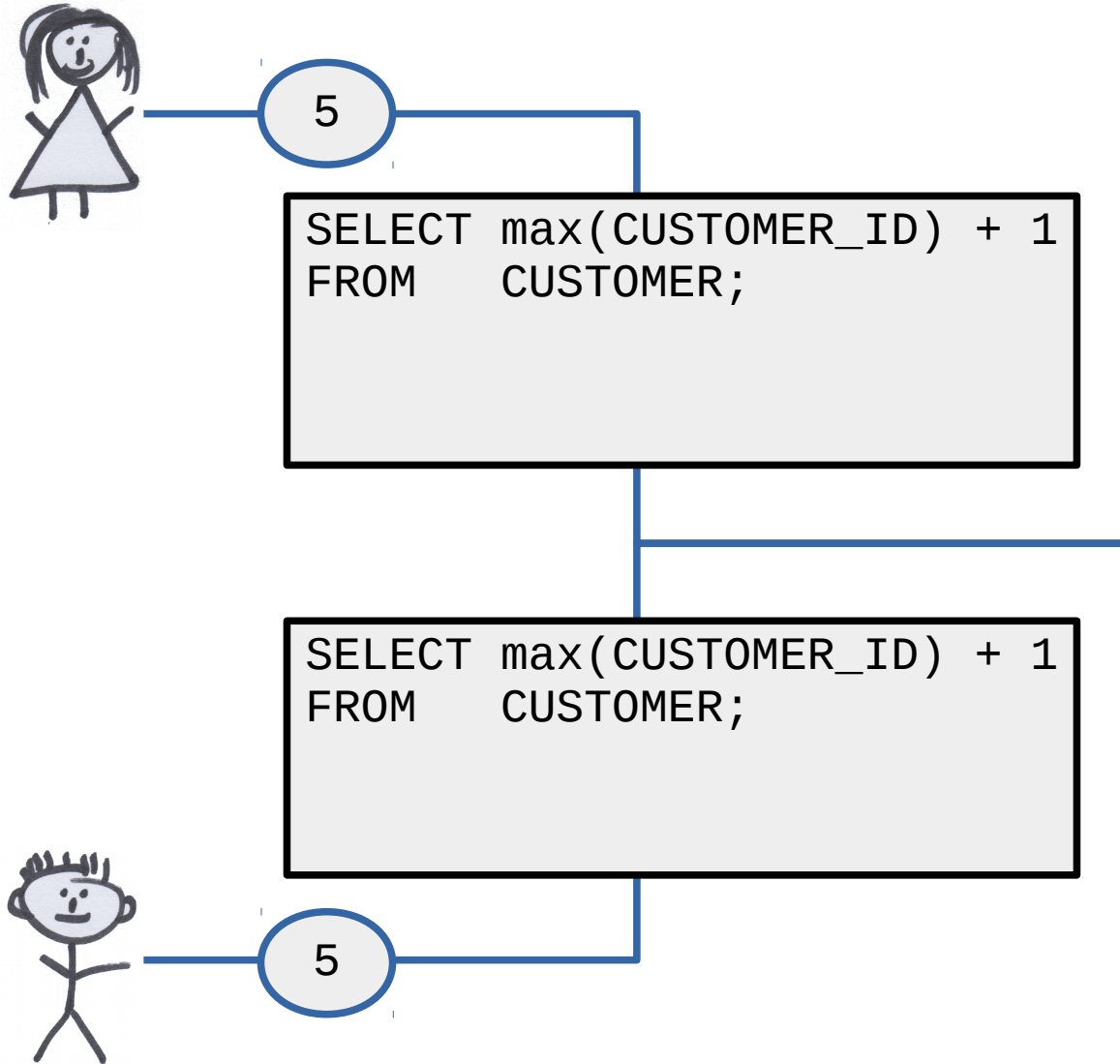


Sequence

Mag. Thomas Griesmayer

Local primary key



CUSTOMER		
CUSTOMER_ID	NAME	AMOUNT
1	Thomas	0
2	Andrea	600
3	Verena	200
4	Marion	100

Local primary key

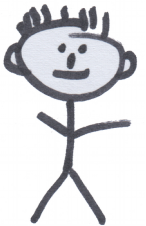


5

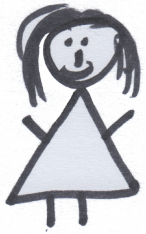
```
INSERT INTO CUSTOMER
VALUES (5, 'Max', 400);

COMMIT;
```

CUSTOMER		
CUSTOMER_ID	NAME	AMOUNT
1	Thomas	0
2	Andrea	600
3	Verena	200
4	Marion	100
5	Max	400



5



5

Local primary key

CUSTOMER		
CUSTOMER_ID	NAME	AMOUNT
1	Thomas	0
2	Andrea	600
3	Verena	200
4	Marion	100
5	Max	400

```
INSERT INTO CUSTOMER
VALUES (5, 'Susi', 1000);

COMMIT;
```

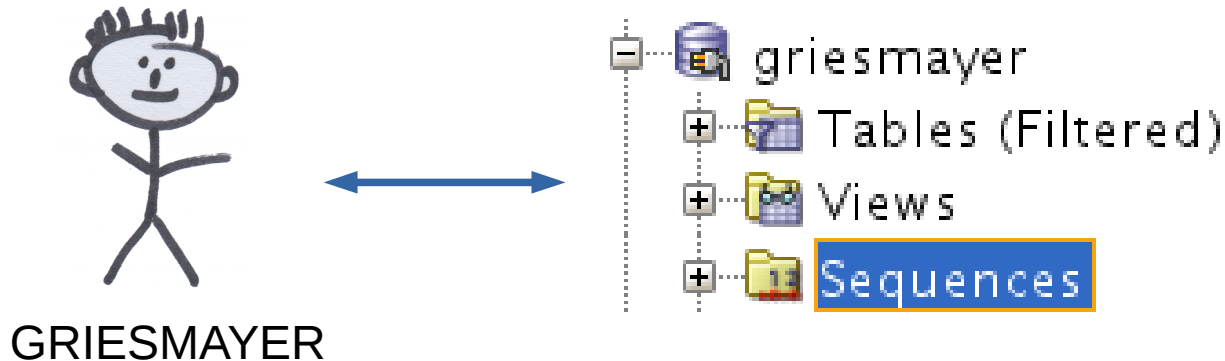
SQL Error: ORA-00001: unique constraint violated
***Cause: An UPDATE or INSERT statement attempted to insert a duplicate key.**



5

Sequence

- Use the **CREATE SEQUENCE** statement to create a sequence, which is a database object from which multiple users may generate unique integers.
- You can use sequences to automatically generate primary key values.



Create sequence

```
CREATE SEQUENCE SEQ_CUSTOMER_ID
  START WITH      1000
  INCREMENT BY    1
  CACHE           20;
COMMIT;
```

```
SELECT SEQ_CUSTOMER_ID.nextval
FROM   DUAL;
```

```
INSERT INTO CUSTOMER
VALUES (SEQ_CUSTOMER_ID.nextval, 'Max', 400);
```

```
INSERT INTO CUSTOMER
VALUES (SEQ_CUSTOMER_ID.nextval, 'Susi', 1000);
```

Use a sequence



```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval,  
'Max', 400);  
COMMIT;
```

CUSTOMER		
CUSTOMER_ID	NAME	AMOUNT
1	Thomas	0
2	Andrea	600
3	Verena	200
4	Marion	100
5	Max	400





Use a sequence

```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval,  
'Susi', 1000);  
COMMIT;
```

CUSTOMER		
CUSTOMER_ID	NAME	AMOUNT
1	Thomas	0
2	Andrea	600
3	Verena	200
4	Marion	100
5	Max	400
6	Susi	1000



Sequence

The screenshot displays the SQL Developer interface. On the left, the 'Connections' pane shows the 'griesmayer' database selected, with the 'Sequences' folder expanded to show 'SEQ_CUSTOMER_ID'. On the right, the 'Details' pane for the selected sequence shows the following properties:

Name	Value
1 CREATED	08-OCT-18
2 LAST_DDL_TIME	08-OCT-18
3 SEQUENCE_OWNER	GRIESMAYER
4 SEQUENCE_NAME	SEQ_CUSTOMER_ID
5 MIN_VALUE	1
6 MAX_VALUE	99999999999999999999999999999999
7 INCREMENT_BY	1
8 CYCLE_FLAG	N
9 ORDER_FLAG	N
10 CACHE_SIZE	20
11 LAST_NUMBER	1000

```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval, ...);
```



```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval, ...);
```



```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval, ...);
```

```
INSERT INTO CUSTOMER VALUES  
(SEQ_CUSTOMER_ID.nextval, ...);
```

	ACCOUNT_ID	FIRST_NAME	BIRTH_DATE	AMOUNT
1	1001	Andera	20-AUG-75	100
2	1002	Kurt	28-FEB-75	800.4
3	1021	Andera	20-AUG-75	100
4	1022	Marion	12-DEC-81	-200
5	1023	Verena	27-JAN-77	900
6	1025	Kurt	19-SEP-89	0