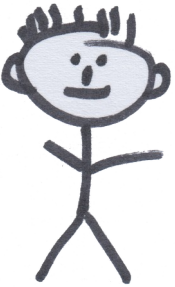
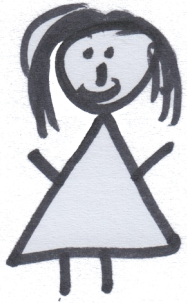


Introduction

Mag. Thomas Griesmayer

Multi user database

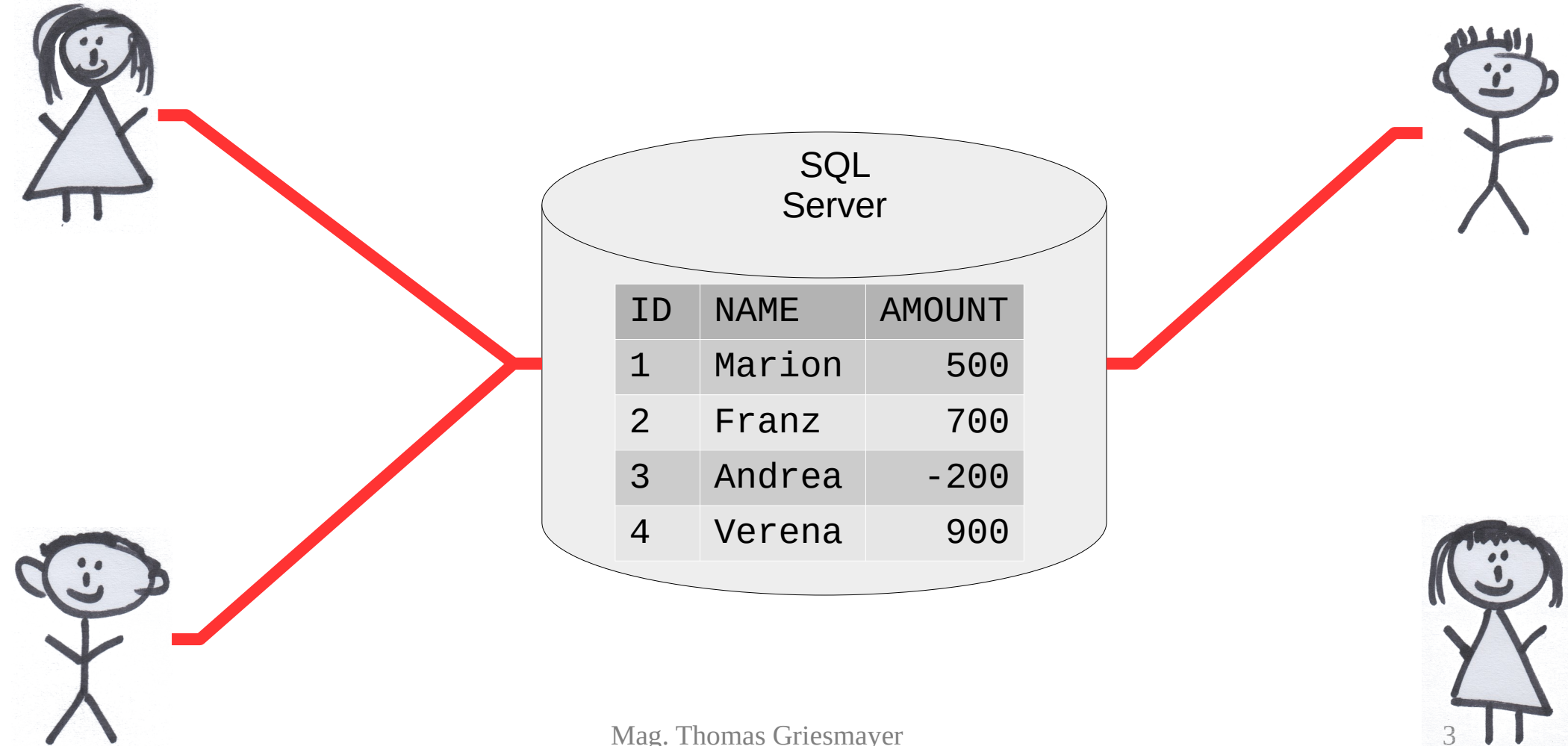


SQL Server

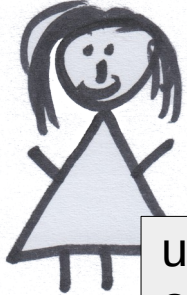
| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |



Authorization



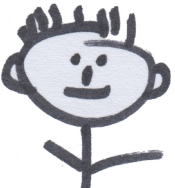
Transaction



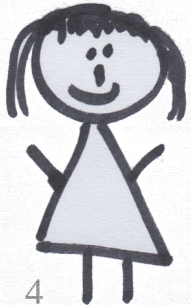
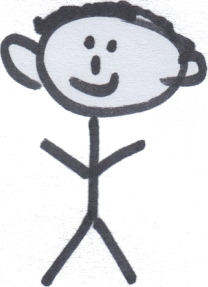
```
update ACCOUNTS  
set AMOUNT=300  
where ID=2
```

SQL Server

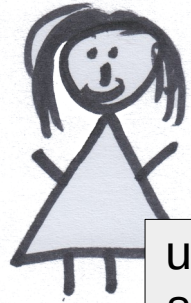
| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |



```
select AMOUNT  
from ACCOUNTS  
where ID = 2
```



Locking

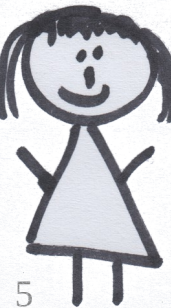
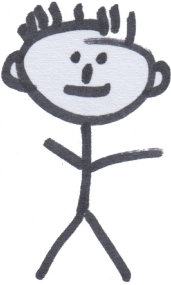


```
update ACCOUNTS  
set AMOUNT=300  
where ID=2
```

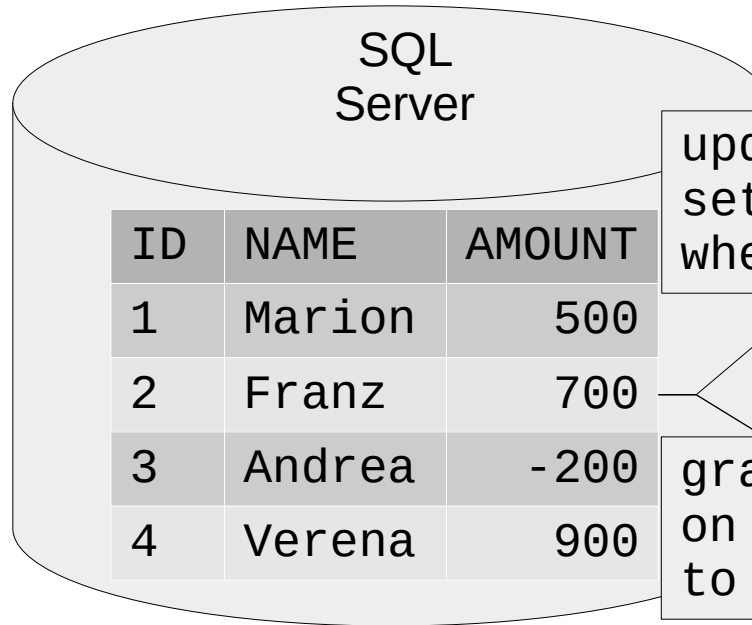
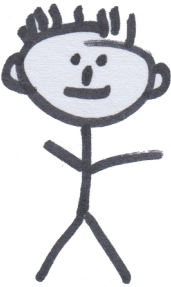
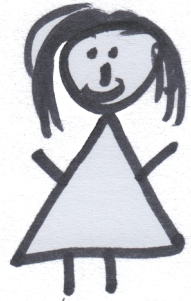
SQL Server

| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |

```
update ACCOUNTS  
set AMOUNT=600  
where ID=2
```

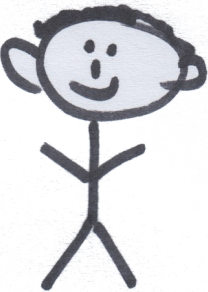


Rights

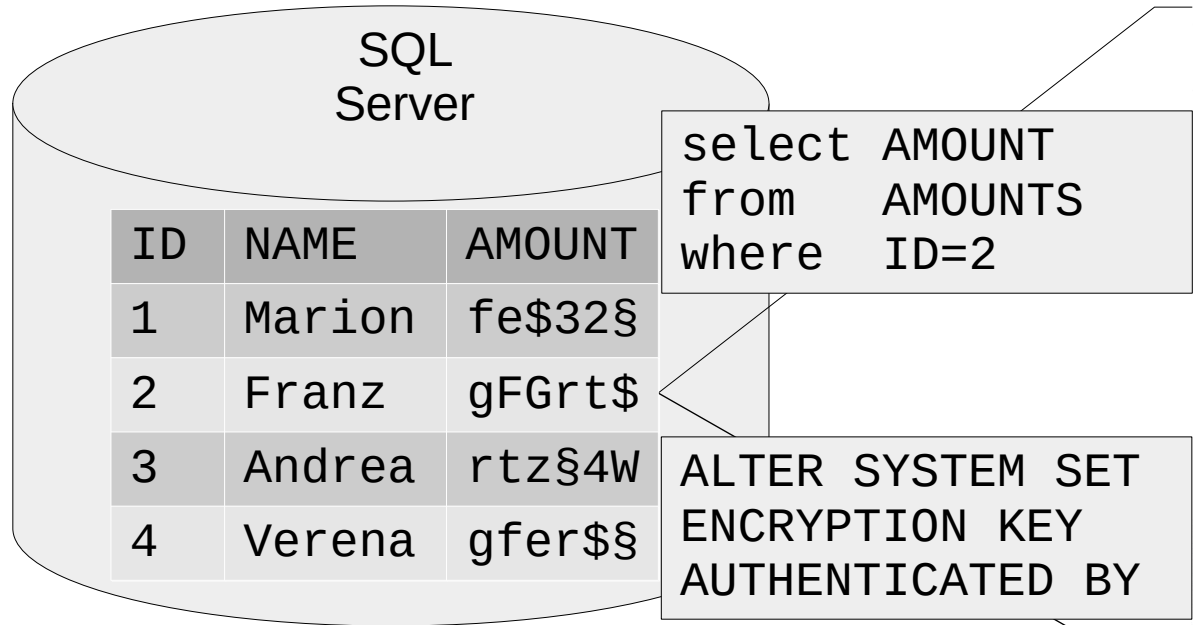
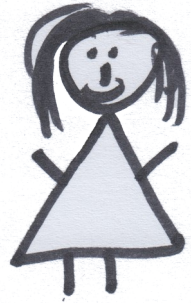


```
update ACCOUNTS  
set    AMOUNT=200  
where  ID=2
```

```
grant UPDATE  
on    EMPLOYEE  
to    ALEX
```



Encryption



Business logic

SQL
Server

| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |

```
insert into  
ACCOUNTS  
values (5, ....)
```



Business logic

SQL
Server

| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |

```
create sequence SEQ_ID
```

```
create trigger TRG_AMT
```

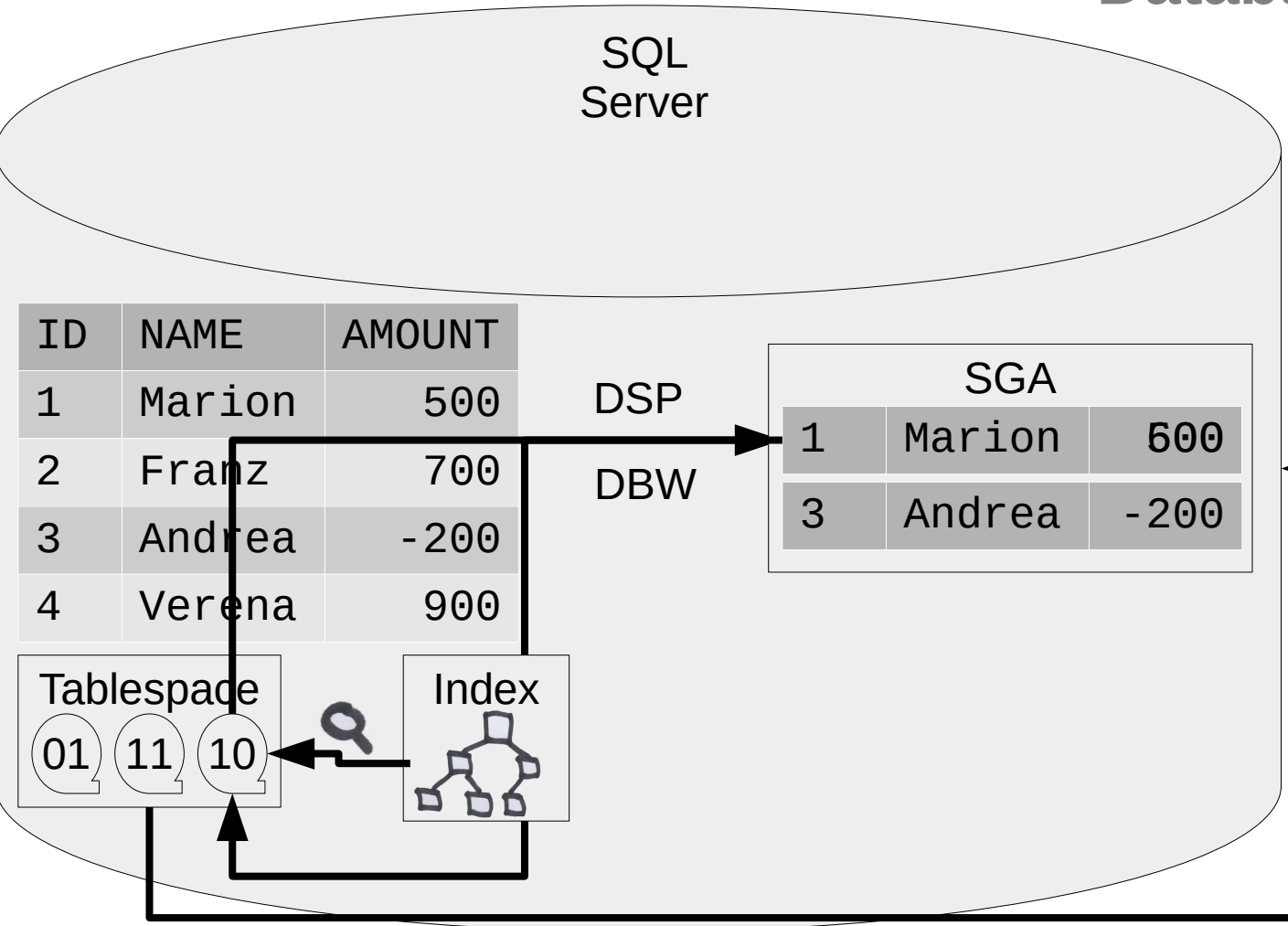
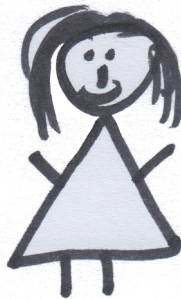
```
create procedure NEW_ACC  
create procedure TRN_AMT
```

```
call TRN_AMT
```

```
UPDATE
```



Database internals

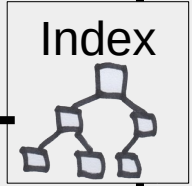


| ID | NAME | AMOUNT |
|----|--------|--------|
| 1 | Marion | 500 |
| 2 | Franz | 700 |
| 3 | Andrea | -200 |
| 4 | Verena | 900 |

DSP
DBW

| SGA | | |
|-----|--------|------|
| 1 | Marion | 500 |
| 3 | Andrea | -200 |

| Tablespace | | |
|------------|----|----|
| 01 | 11 | 10 |



```
update ACCOUNTS
set AMOUNT=600
where ID=1
```

| Backup | | |
|--------|----|----|
| 01 | 11 | 10 |

Select

HAND OVER:

- Connection
- Tablename

SCREENSHOT
with YOUR NAME!!!

The screenshot shows a SQL query editor window titled 'demo'. The query is: `SELECT *`
`FROM GRIESMAYER_ACCOUNTS`. The 'FROM' clause and the table name are highlighted in yellow. Below the query, the 'Query Result' tab is active, displaying a table with 5 rows and 5 columns: ACCOUNT_ID, FIRST_NAME, BIRTH_DATE, and AMOUNT. The status bar indicates 'All Rows Fetched: 5 in 0.012 seconds'.

| | ACCOUNT_ID | FIRST_NAME | BIRTH_DATE | AMOUNT |
|---|------------|------------|------------|--------|
| 1 | 1 | Thomas | 14-JUL-73 | 500.5 |
| 2 | 2 | Andera | 20-AUG-75 | 100 |
| 3 | 3 | Marion | 12-DEC-81 | -200 |
| 4 | 4 | Verena | 27-JAN-77 | 900 |
| 5 | 5 | Kurt | 28-FEB-75 | 800.4 |