---- SQL Intro

Mittwoch, 26. Mai 2021   16:53

Samstag, 17. April 2021   11:52

Selection	Columns
Filtering	Rows
Sorting	Order of rows

select output columns
from table
where condition
order by column names

select lastname, salary
from employee
where ouid=14
order by salary;

LASTNAME	SALARY
Sanchez	39000
Nguyen	41000
Li	89000

select lastname, salary
from employee
where ouid=14
order by salary **desc**;

LASTNAME	SALARY
Li	89000
Nguyen	41000
Sanchez	39000

select *
from employee;

Output of complete table,
i.e. all rows and all columns

appliction of a function

```
select
  lastname,
  extract(year from hiredate) as hireyear
from employee
where ouid=14;
```

LASTNAME	HIREYEAR
Li	2002
Nguyen	2006
Sanchez	2014

define column name to be used in output

calculation of a value

```
select
  lastname,
  extract(year from current_date) -
  extract(year from hiredate) as years_of_employment
from employee
where ouid=14;
```

LASTNAME	YEARS_OF_EMPLOYMENT
Li	19
Nguyen	15
Sanchez	7

```
select
  lastname, salary
from employee
where
  salary < 35000
  and
  hiredate between  to_date('2010/01/01', 'YYYY/MM/DD') and to_date('2020/12/31', 'YYYY/MM/DD');
```

atomic part

logical operator (**and**, **or**, **not**)

LASTNAME	SALARY
Kumar	32000
Krause	31000
Oezdem	33000
Okeke	32000

select
  lastname, salary, bonus
from employee
where
  bonus=null
order by eid;

wrong: bonus=null
--> empty output

LASTNAME	SALARY	BONUS

select
  lastname, salary, bonus
from employee
where
  bonus **is null**
order by eid;

correct: bonus **is null**

LASTNAME	SALARY	BONUS
Patil	180000	(null)
Durmaz	120000	(null)
Blaschke	93000	(null)
Stone	42000	(null)
Li	89000	(null)
Nguyen	41000	(null)
Umarani	142000	(null)
Ortega	90000	(null)
Doshi	42000	(null)
Jadhav	91000	(null)
Popov	34000	(null)
Kumar	32000	(null)
Krause	31000	(null)

select
  lastname, salary, bonus
from employee
where
  not bonus **is null**;

Negation

LASTNAME	SALARY	BONUS
Dalal	38000	1000
Sanchez	39000	1500
Singh	43000	2100
Oezdem	33000	1900
Okeke	32000	1900

Calculations with Null Values   Prof. Dr. Ingo Claßen

Samstag, 17. April 2021   12:23

select
  lastname, salary, bonus,
  salary + bonus **as** total
from employee
where
  ouid=17;

wrong: direct usage

LASTNAME	SALARY	BONUS	TOTAL
Popov	34000	(null)	(null)
Kumar	32000	(null)	(null)
Krause	31000	(null)	(null)
Oezdem	33000	1900	34900
Okeke	32000	1900	33900

select
  lastname, salary, bonus,
  salary+
  case
    when bonus is null then 0
    else bonus
  end as total
from employee
where
  ouid=17;

correct: convert null values

LASTNAME	SALARY	BONUS	TOTAL
Popov	34000	(null)	34000
Kumar	32000	(null)	32000
Krause	31000	(null)	31000
Oezdem	33000	1900	34900
Okeke	32000	1900	33900

conditional calculation expression

select
  lastname, ouid,
  case
    when salary>100000 **then** 'high'
    when salary>35000 **then** 'medium'
    else 'low'
  end as salary_band
from employee
order by salary;

LASTNAME	OUID	SALARY_BAND
Krause	17	low
Okeke	17	low
Kumar	17	low
Oezdem	17	low
Popov	17	low
Dalal	13	medium
Sanchez	14	medium
Nguyen	14	medium
Doshi	16	medium
Stone	13	medium
Singh	16	medium
Li	14	medium
Ortega	16	medium
Jadhav	16	medium
Blaschke	13	medium
Durmaz	12	high
Umarani	15	high
Patil	11	high