MENCARI NILAI YANG KURANG DARI NILAI MAHASISWA

```
SELECT MAHASISWA.NIM, MAHASISWA.NAMA, MAHASISWA.KELAS, KRS.NILAI AS "Nilai Kalkulus"
  FROM MAHASISWA
  JOIN KRS ON MAHASISWA.NIM = KRS.NIM
  WHERE KRS.KODEMK = 'PIF221110' AND MAHASISWA.KELAS = 'KELAS 3A'
     AND KRS.NILAI > (SELECT NILAI FROM KRS WHERE NIM = '12250111134' AND KODEMK =
'PIF221110')
ORDER BY UPPER(MAHASISWA.NAMA)
/
```

MENCARI MAHASISWA DENGAN NILAI TERTENTU

```
SELECT MAHASISWA.NIM, MAHASISWA.NAMA, MAHASISWA.KELAS, KRS.NILAI
  FROM MAHASISWA
  JOIN KRS ON MAHASISWA.NIM = KRS.NIM
  WHERE KRS.KODEMK = 'PIF221110'
     AND KRS.NILAI = 'A-'
ORDER BY UPPER(MAHASISWA.NAMA)
/
```

MENGHITUNG JUMLAH MAHASISWA YANG MEMILIKI NILAI TERTENTU

```
SELECT COUNT(*)
  FROM MAHASISWA
  JOIN KRS ON MAHASISWA.NIM = KRS.NIM
  WHERE KRS.KODEMK = 'PIF221110'
     AND KRS.NILAI = 'A-'
```

MENGHITUNG JUMLAH MAHASISWA YANG MEMILIKI NILAI TERTENTU (BERDASARKAN KELAS)

```
SELECT MAHASISWA.KELAS, COUNT(*)
  FROM MAHASISWA
  JOIN KRS ON MAHASISWA.NIM = KRS.NIM
  WHERE KRS.KODEMK = 'PIF221110'
      AND KRS.NILAI = 'A'
GROUP BY MAHASISWA.KELAS
ORDER BY MAHASISWA.KELAS
/
```

MENGETAHUI NILAI TERENDAH MAHASISWA BERDASARKAN KELAS

```
SELECT MAHASISWA.KELAS, MAX(NILAI)
  FROM MAHASISWA
  JOIN KRS ON MAHASISWA.NIM = KRS.NIM
  WHERE KRS.KODEMK = 'PIF221110'
GROUP BY MAHASISWA.KELAS
ORDER BY MAHASISWA.KELAS
/
```

MENGETAHUI NAMA MAHASISWA AWALAN A

```
SELECT MAHASISWA.NAMA, MAHASISWA.KELAS
  FROM MAHASISWA
  WHERE MAHASISWA.NAMA LIKE  'A%'
/
```

MENGHITUNG JUMLAH HURUF NAMA MAHASISWA

```
SELECT MAHASISWA.NAMA, LENGTH(MAHASISWA.NAMA)
  FROM MAHASISWA
  GROUP BY MAHASISWA.NAMA
ORDER BY MAHASISWA.NAMA
/
```

MENGHITUNG JUMLAH MATAKULIAH YANG DIAMBIL SETIAP MAHASISWA

```
SELECT MAHASISWA.NAMA, COUNT(MATAKULIAH.KODE) AS JUMLAH_MATAKULIAH
FROM MAHASISWA
JOIN KRS ON MAHASISWA.NIM = KRS.NIM
JOIN MATAKULIAH ON KRS.KODEMK = MATAKULIAH.KODE
GROUP BY MAHASISWA.NAMA
ORDER BY MAHASISWA.NAMA
/
```

Mengambil Catatan dengan Natural Join

- Hanya menggunakan bidang yang umum untuk kedua tabel - DEPARTMENT_ID untuk melakukan Join

```
SELECT   department_id, department_name, location_id, city
FROM     departments NATURAL JOIN locations;
```

DEPARTMENT_ID	DEPARTMENT_NAME	LOCATION_ID	CITY
20	Marketing	1800	Toronto
80	Sales	2500	Oxford
60	IT	1400	Southlake
50	Shipping	1500	South San Francisco
10	Administration	1700	Seattle
90	Executive	1700	Seattle

Mengambil Catatan dengan Klausa ON

- Anda juga dapat menggunakan klausa ON untuk menggabungkan kolom yang memiliki nama atau jenis data berbeda

```
SELECT e.employee_id, e.last_name, e.department_id,
       d.department_id, d.location_id
FROM   employees e JOIN departments d
ON     (e.department_id = d.department_id);
```

EMPLOYEE_ID	LAST_NAME	DEPARTMENT_ID	DEPARTMENT_ID	LOCATION_ID
200	Whalen	10	10	1700
201	Hartstein	20	20	1800
202	Fay	20	20	1800
124	Mourgos	50	50	1500
141	Rajs	50	50	1500
142	Davies	50	50	1500

...

Case Manipulation Functions

- UPPER(column | expression) converts alpha characters to upper-case.

```
SELECT last_name
FROM employees
WHERE UPPER(last_name) = 'ABEL';
```

- INITCAP(column | expression) converts alpha character values to uppercase for the first letter of each word.

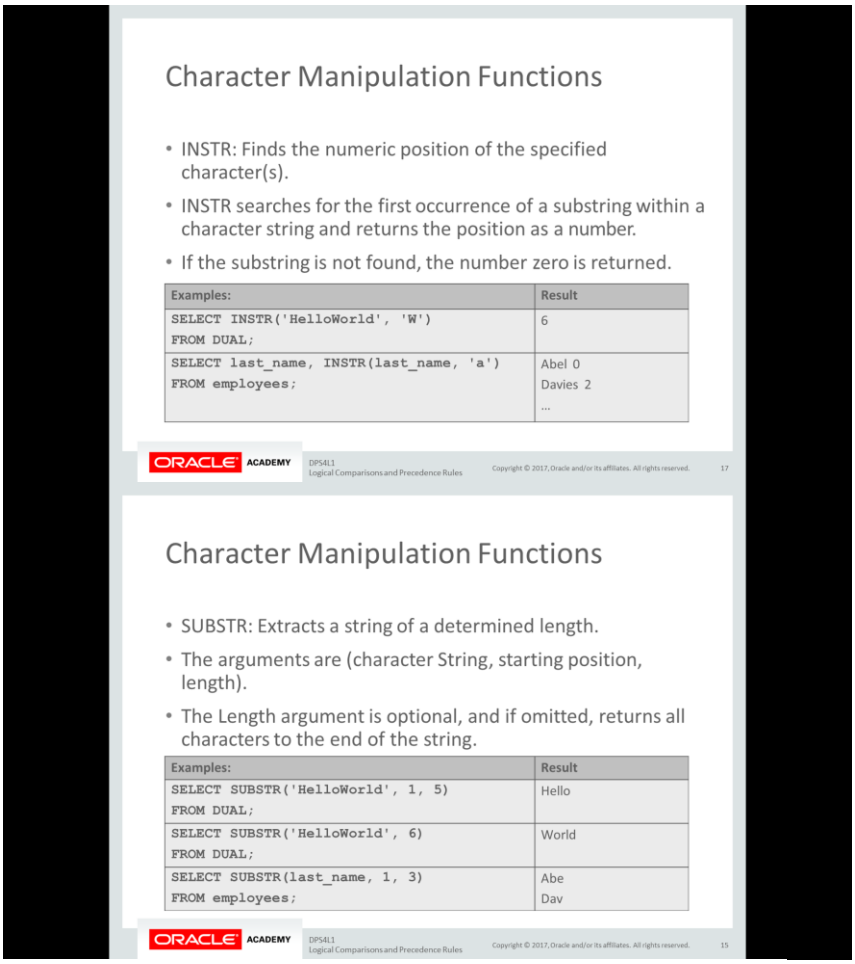
```
SELECT last_name
FROM employees
WHERE INITCAP(last_name) = 'Abel';
```


HAVING

- The WHERE clause is used to restrict rows; the HAVING clause is used to restrict groups returned from a GROUP BY clause.

```
SELECT department_id,MAX(salary)
FROM employees
GROUP BY department_id
HAVING COUNT(*)>1
ORDER BY department_id;
```

DEPARTMENT_ID	MAX(SALARY)
20	13000
50	5800
60	9000
80	11000
90	24000
110	12000




```
SELECT last_name
FROM employees
WHERE LOWER(last_name) = 'abel';
```

RIGHT OUTER JOIN

- Di sini, kita ingin melihat semua catatan departemen (tabel kanan) meskipun tidak memiliki karyawan

```
SELECT e.last_name, e.department_id, d.department_name
FROM employees e RIGHT OUTER JOIN departments d
ON (e.department_id = d.department_id);
```

LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
Whalen	10	Administration
Hartstein	20	Marketing
Fay	20	Marketing
Mourgos	50	Shipping
Rajs	50	Shipping
Davies	50	Shipping
-	-	**Contracting**

...

FULL OUTER JOIN

- Di sini, kita ingin melihat semua catatan karyawan dan departemen

```
SELECT e.last_name, e.department_id, d.department_name
FROM employees e FULL OUTER JOIN departments d
ON (e.department_id = d.department_id);
```

LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
King	90	Executive
Kochhar	90	Executive
Taylor	80	Sales
Grant	-	-
Mourgos	50	Shipping
Fay	20	Marketing
-	-	**Contracting**

...

LEFT OUTER JOIN

- Di sini, kita ingin melihat semua catatan karyawan (tabel kiri) meskipun tidak ditetapkan ke departemen

```
SELECT e.last_name, e.department_id, d.department_name
FROM employees e LEFT OUTER JOIN departments d
ON (e.department_id = d.department_id);
```

LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
Whalen	10	Administration
Fay	20	Marketing
Hartstein	20	Marketing
Vargas	50	Shipping
Matos	50	Shipping
Higgins	110	Accounting
Grant	-	-

...

Mengambil Catatan dengan Klausa USING

- Klausa `USING` menentukan bahwa Join dilakukan dengan kolom `DEPARTMENT_ID`, bukan `MANAGER_ID` yang juga merupakan kolom umum

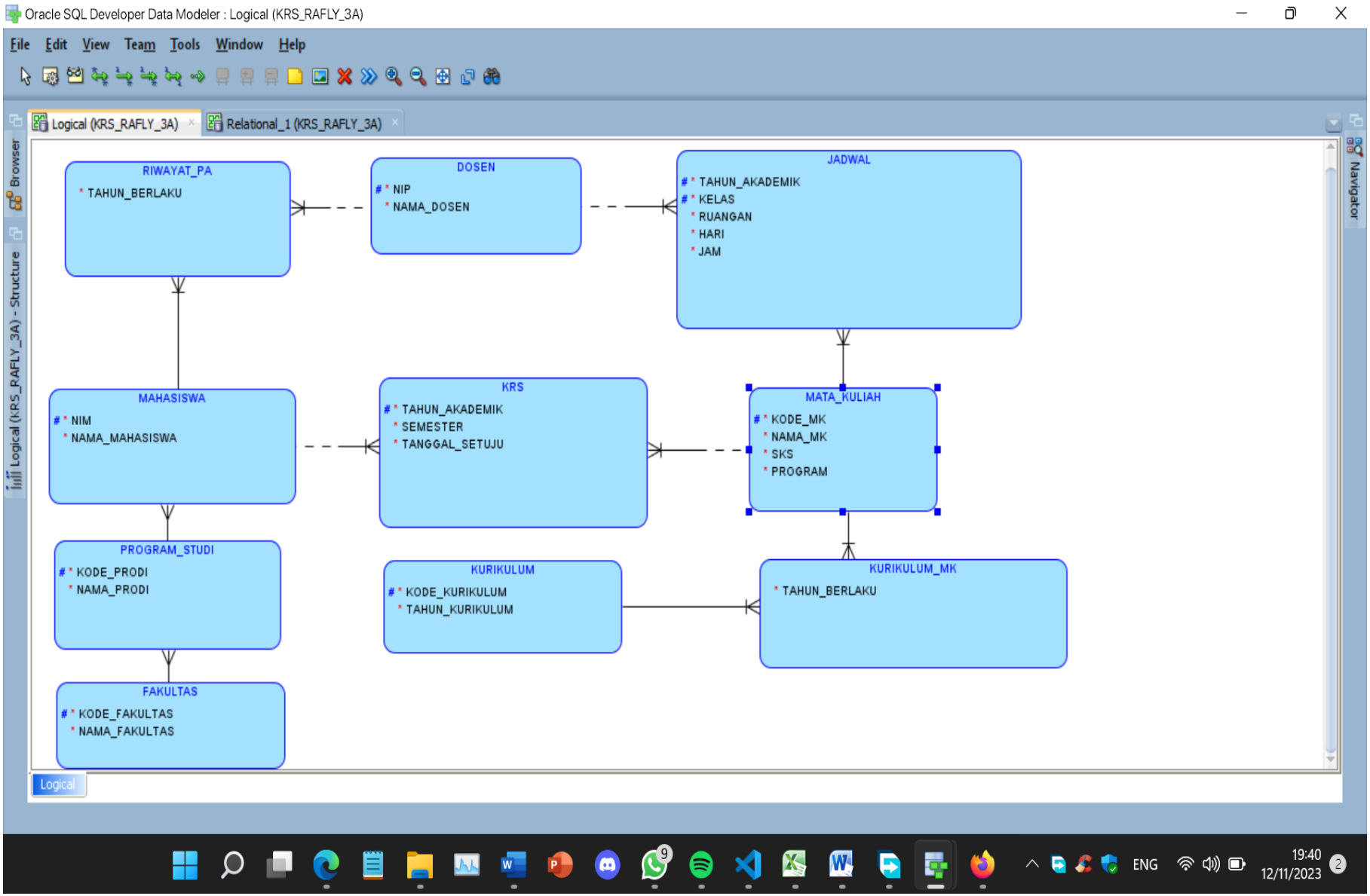
```
SELECT  employee_id, last_name, location_id,
        department_id
FROM    employees JOIN departments
USING   (department_id);
```

EMPLOYEE_ID	LAST_NAME	LOCATION_ID	DEPARTMENT_ID
200	Whalen	1700	**10**
201	Hartstein	1800	**20**
202	Fay	1800	**20**
124	Mourgos	1500	**50**
...			

Menggabungkan Tabel Menggunakan Sintaks SQL:1999

- Gunakan Join untuk membuat kueri pada data dari lebih dari satu tabel:

```
SELECT   table1.column, table2.column
FROM     table1
[NATURAL JOIN table2] |
[JOIN table2 USING (column_name)] |
[JOIN table2
  ON (table1.column_name = table2.column_name)]|
[LEFT|RIGHT|FULL OUTER JOIN table2
  ON (table1.column_name = table2.column_name)]|
[CROSS JOIN table2];
```


Oracle SQL Developer Data Modeler : Logical (KRS_RAFLY_3A)
File Edit View Team Tools Window Help
Logical (KRS_RAFLY_3A)
Relational_1 (KRS_RAFLY_3A)
Browser
Logical (KRS_RAFLY_3A) - Structure
Navigator
RIWAYAT_PA
* TAHUN_BERLAKU
DOSEN
* NIP
* NAMA_DOSEN
JADWAL
* TAHUN_AKADEMIK
* KELAS
* RUANGAN
* HARI
* JAM
MAHASISWA
* NIM
* NAMA_MAHASISWA
KRS
* TAHUN_AKADEMIK
* SEMESTER
* TANGGAL_SETUJU
MATA_KULIAH
* KODE_MK
* NAMA_MK
* SKS
* PROGRAM
PROGRAM_STUDI
* KODE_PRODI
* NAMA_PRODI
KURIKULUM
* KODE_KURIKULUM
* TAHUN_KURIKULUM
KURIKULUM_MK
* TAHUN_BERLAKU
FAKULTAS
* KODE_FAKULTAS
* NAMA_FAKULTAS
Logical
ENG
19:40
12/11/2023

SQL> connect sys as sysdba;

Enter password:

Connected.

SQL> create user user2 identified by 123;

User created.

------ memberikan hak akses utk login ke user2

SQL> grant create session to user2;

Grant succeeded.

------ memberikan hak akses utk bisa select tabel dosen pada database/schema uasdb2023 ke user2

SQL> grant select on uasdb2023.dosen to user2;

Grant succeeded.

SQL> connect user2/123;

Connected.

SQL> select * from tab;

no rows selected

--- membuktikan kalau user2 bisa select ke tabel dosen pada database/schema uasdb2023

1* grant select on uasdb2023.mahasiswa to user2

SQL> /

Grant succeeded.

SQL> ed

Wrote file afiedt.buf

1* grant update (nilai) on uasdb2023.nilai to user2

SQL> /

grant update (nilai) on uasdb2023.nilai to user2

*

ERROR at line 1:

ORA-00942: table or view does not exist

------ memberikan hak akses utk bisa update nila pada tabel KRS pada database/schema uasdb2023 ke user2

SQL> ed

Wrote file afiedt.buf

1* grant update (nilai) on uasdb2023.krs to user2

SQL> /

Grant succeeded.

SQL> grant mahasiswa to mhs1;

Grant succeeded.

SQL> connect mhs1/123;

ERROR:

ORA-01045: user MHS1 lacks CREATE SESSION privilege; logon denied

Warning: You are no longer connected to ORACLE.

SQL> connect mhs1/123;

ERROR:

ORA-01045: user MHS1 lacks CREATE SESSION privilege; logon denied

SQL> connect user4/123;

Connected.

SQL> revoke select on uasdb2023.dosen from user5;

Revoke succeeded.

SQL> connect user5/123;

Connected.

SQL> select * from uasdb2023.dosen;

select * from uasdb2023.dosen

*

ERROR at line 1:

ORA-00942: table or view does not exist

SQL> connect sys as sysdba;

Enter password:

Connected.

SQL> revoke create session from dosen;

Revoke succeeded.

SQL> connect user5/123;

ERROR:

ORA-01045: user USER5 lacks CREATE SESSION privilege; logon denied

Warning: You are no longer connected to ORACLE.

SQL> connect user4/123;

ERROR:

ORA-01045: user USER4 lacks CREATE SESSION privilege; logon denied