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DATABASE MANAGEMENT – 5



SQL – SELECT

- Attribute naming
- SELECT fname AS İsim, salary AS Maaş
FROM Employee

İsim	Maaş
Mary	9000
David	18000
Ann	12000
Susan	24000
John	30000
Julie	9000

SQL – SELECT

- Attribute naming
- `SELECT AVG(salary) AS "Maaş Ortalaması"
FROM Employee`

'Maaş Ortalaması'
17000

SQL – SELECT

- Sorting – by salary
- `SELECT * FROM Employee
ORDER BY salary`

staffNo	fName	IName	position	sex	dob	salary	branchNo
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SL21	John	White	Manager	M	01-Oct-1945	30000	B005

SQL – SELECT

- Sorting – by branchno
- `SELECT * FROM Employee
ORDER BY branchno`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007

SQL – SELECT

- Sorting – by position and salary
- `SELECT * FROM Employee
ORDER BY position, salary`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003

SQL – SELECT

- Sorting – by salary (From highest to lowest)
- `SELECT * FROM Employee
ORDER BY salary DESC`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007

SQL – SELECT

- Sorting – by position (ascending), by salary (descending)
- `SELECT * FROM Employee ORDER BY position, salary DESC`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003

SQL – SELECT

- Sorting – by position and salary (both descending)
- `SELECT * FROM Employee
ORDER BY position DESC, salary DESC`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007

SQL – SELECT

- Sorting – by position (descending), by salary (ascending)
- `SELECT * FROM Employee ORDER BY position DESC, salary ASC`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003

SQL – SELECT

- Sorting B003 – by position (descending), by salary (ascending)
- `SELECT * FROM Employee
WHERE branchno='B003'
ORDER BY position DESC, salary`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005

SQL – SELECT

- Employees with salary between 20.000 and 30.000
- `SELECT * FROM Employee WHERE salary BETWEEN 20000 and 30000`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SL21	John	White	Manager	M	1-Oct-1945	30000	B005
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003

SQL – SELECT

- Employees in B003 and B005
- `SELECT * FROM Employee
WHERE branchno
IN ('B003','B005')`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-1965	9000	B005

SQL – SELECT

- Restricting the number of query result
- 3 records from Employee
- `SELECT TOP 3 * FROM Employee`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SG14	David	Ford	Supervisor	M	24-Mar-1958	18000	B003

SQL – SELECT

- Most winning 2 employees
- `SELECT TOP 2 * FROM Employee ORDER BY salary DESC`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SL21	John	White	Manager	M	01-Oct-1945	30000	B005
SG5	Susan	Brand	Manager	F	03-Jun-1940	24000	B003

SQL – SELECT

- 50% of Assistants
- `SELECT TOP 50 PERCENT * FROM Employee WHERE position='Assistant'`

staffNo	fName	lName	position	sex	dob	salary	branchNo
SG37	Ann	Beech	Assistant	F	10-Nov-1960	12000	B003
SA9	Mary	Howe	Assistant	F	19-Feb-1970	9000	B007

SQL – SELECT

- **Nested SQL**
- Name and salary of the most winning employee
- SELECT fName, lName, salary FROM Employee
WHERE salary =
(SELECT max(salary) FROM Employee)

fName	salary
John	30000

SQL – SELECT

- Employees working in 'Sales' department
- `SELECT * FROM Employee
WHERE branchno =
(SELECT branchno FROM department
WHERE branchname='Sales')`

SQL – SELECT

- Assistants working in 'Sales' department
- `SELECT * FROM Employee
WHERE position='Assistant' and branchno =
(SELECT branchno FROM department
WHERE branchname='Sales')`

SQL – SELECT

- Employees working in room 108
- `SELECT * FROM Employee
WHERE branchno =
(SELECT branchno FROM department
WHERE location=108)`

SQL – SELECT

- Room of John White?
- `SELECT location FROM Department
WHERE branchno =
(SELECT branchno FROM Employee
WHERE fname='John' and lname='White')`

SQL – SELECT

- Names of employees working in 1st floor.
- SELECT fname, lname FROM Employee
WHERE branchno IN
(SELECT branchno FROM Department
WHERE location<200)

SQL – SELECT

- Branchno of the most winning employee
- `SELECT branchno FROM Employee
WHERE salary =
(SELECT max(salary) FROM Employee)`

SQL – SELECT

- Branch name of the most winning employee
- ```
SELECT Branchname FROM Department
WHERE branchno IN
(SELECT branchno FROM Employee
WHERE salary =
(SELECT max(salary) FROM Employee))
```



# Exercises

- Beyazesya(urunno, modeli, markakodu, turkodu, fiyati)
- Markalar(markakodu, marka, ulke)
- Turler(turkodu, turadi, aciklama)
- “Türkiye” de üretilen markalar
  - SELECT marka from Markalar WHERE  
ulke='Türkiye'

# Exercises

- Beyazesya(urunno, modeli, markakodu, turkodu, fiyati)
- Markalar(markakodu, marka, ulke)
- Turler(turkodu, turadi, aciklama)
- Markakodu 3 olan ürünlerin modeli ve fiyatları
  - SELECT modeli, fiyati FROM Beyazesya  
WHERE markakodu = 3

# Exercises

- Beyazesya(urunno, modeli, markakodu, turkodu, fiyati)
- Markalar(markakodu, marka, ulke)
- Turler(turkodu, turadi, aciklama)
- Markakodu 3 olan marka
  - SELECT marka FROM Markalar  
WHERE markakodu = 3

# Exercises

- Beyazesya(urunno, modeli, markakodu, turkodu, fiyati)
- Markalar(markakodu, marka, ulke)
- Turler(turkodu, turadi, aciklama)
- “Bosch” marka ürünlerin modeli ve fiyatları
  - SELECT modeli, fiyati FROM Beyazesya  
WHERE markakodu =  
(SELECT markakodu FROM Markalar  
WHERE marka = 'Bosch')

# Exercises

- **Beyazesya**(urunno, modeli, markakodu, turkodu, fiyatı)
- **Markalar**(markakodu, marka, ulke)
- **Turler**(turkodu, turadi, aciklama)
  
- Fiyatı 500 ile 1000 YTL arasında olan buzdolaplarının model ve fiyat bilgileri
  - SELECT modeli, fiyatı FROM Beyazesya  
WHERE fiyatı BETWEEN 500 and 1000  
AND turkodu =  
(SELECT turkodu FROM Turler WHERE turadi = "Buzdolabı")

# Exercises

- Beyazesya(urunno, modeli, markakodu, turkodu, fiyati)
- Markalar(markakodu, marka, ulke)
- Turler(turkodu, turadi, aciklama)
- En pahalı ürün hangi ülkeye ait
  - SELECT ulke FROM Markalar WHERE markakodu IN (SELECT markakodu FROM Beyazesya WHERE fiyati IN (SELECT max(fiyati) FROM Beyazesya))