



BIL3203 – DATABASE MANAGEMENT



Alper VAHAPLAR

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SQL – Structured Query Language



SQL – SELECT



- DISTINCT
- SELECT DISTINCT position
FROM Employee

position
Assistant
Manager
Supervisor

- SELECT DISTINCT sex
FROM Employee

sex
F
M

SQL – SELECT

- Exercises:
 1. Highest salary in females
 2. Lowest salary in “Booz”
 3. Mean of salaries of “Manager”s
 4. Increase salaries 10%
 5. Name of employee with the minimum salary
 6. Employees with salary higher than mean salary

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	lName	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	IName	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	IName	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