



IE220

Introduction to Database Systems

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Basic SQL

Select-From-Where

- Select-from-where uses to get data in a table or tables.

SELECT <Fields>

FROM <Table List>

WHERE <Conditions>;

Example:

SELECT Name, Surname **FROM** Student **WHERE** StudentID = '20121105015';

SELECT StudentID **FROM** Student **WHERE** Name = 'Mehmet' **AND** Surname = 'Aslan';

Relational Algebra Operators

- Operators to compare
 - = Equal to
 - < smaller than
 - > greater than
 - <= smaller than or equal
 - >= greater than or equal
 - <> not equal
- To combine logical conditions
 - AND
 - OR
 - NOT

Examples

- Write a SQL query to list firstname and lastname field for all records in Customers table in eMarketing database.
- Write a SQL query to list product name field for the products that's quantity is greater than 10.
- Write a SQL query to list productID field for the orders that's status is «In Process» and order date is before 22-May-2018 (*excluding* 22-May-2018).

Query by relations between multiple tables

Students

| | | |
|-----------|------|---------|
| StudentID | Name | Surname |
|-----------|------|---------|

Courses

| | |
|----------|------------|
| CourseID | CourseName |
|----------|------------|

Exams

| | | | |
|-----------|----------|-------|----------|
| StudentID | CourseID | Grade | Semester |
|-----------|----------|-------|----------|

- Queries can be writes between the related multiple tables.
`SELECT` Students.Name, Students.Surname, Exams.Grade
`FROM` Students, Exams
`WHERE` Students.StudentID = Exams.StudentID;

Query by relations between multiple tables

Students

| | | |
|-----------|------|---------|
| StudentID | Name | Surname |
|-----------|------|---------|

Courses

| | |
|----------|------------|
| CourseID | CourseName |
|----------|------------|

Exams

| | | | |
|-----------|----------|-------|----------|
| StudentID | CourseID | Grade | Semester |
|-----------|----------|-------|----------|

- Another example;

```
SELECT Students.Name, Students.Surname,  
        Courses.CourseName, Exams.Grade
```

```
FROM Students, Courses, Exams
```

```
WHERE Students.StudentID = Exams.StudentID AND  
       Exams.CourseID = Courses.CourseID;
```