MySQL Appunti

SELECT Syntax

Select di alcune colonne (*column1, column2*)

```
SELECT column1, column2
FROM table_name;
```

Select di tutte le colonne di una tabella

```
SELECT *
FROM table_name;
```

SELECT WHERE Syntax

Select di alcune colonne (*column1, column2*) con una condizione

```
SELECT column1, column2
FROM table_name;
WHERE condition;
```

Select di tutte le colonne di una tabella

```
SELECT *
FROM table_name;
WHERE condition;
```

Le *condition* sono fatte da:

- Uguaglianza:

  ```
  column = valore
  ```

- Maggiore e minore

  ```
  column > valore
  ```

  ```
  column < valore
  ```

- Tra 2 valori

```
column BETWEEN valore1 AND valore2
```

- Non è nullo

```
IS NOT NULL
```

- Operatori:
  - `AND`
  - `OR`
  - `NOT` per negare

INSERT INTO Syntax

Inserimento specificando le colonne in cui andranno inseriti i valori

```
INSERT INTO table_name (column1, column2, column3, ...)
VALUES (value1, value2, value3, ...);
```

Inserimento di tutti i valori di tutte le colonne della tabella

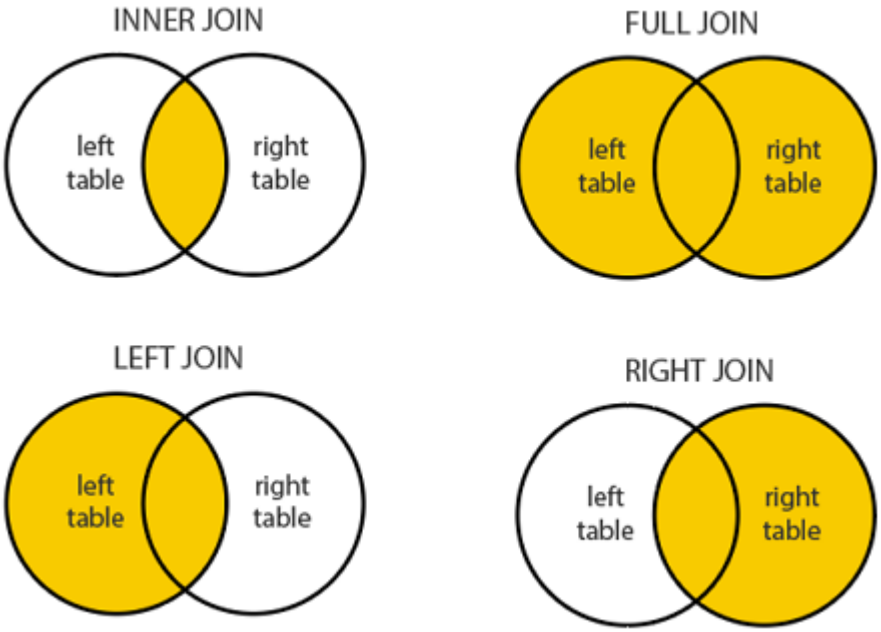
```
INSERT INTO table_name
VALUES (value1, value2, value3, ...);
```

Inserimento con il primo valore lasciato a default per il db

```
INSERT INTO table_name
VALUES (DEFAULT, value1, value2, value3, ...);
```

In questo modo si lascia che il DB scelga un valore di default che deve essere specificato nel momento di creazione della *TABLE*

JOIN Syntax



INNER JOIN

```
SELECT column_name(s)
FROM table1
INNER JOIN table2
ON table1.column_name = table2.column_name;
```

LEFT JOIN

```
SELECT column_name(s)
FROM table1
LEFT JOIN table2
ON table1.column_name = table2.column_name;
```

RIGHT JOIN

```
SELECT column_name(s)
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name;
```

FULL JOIN

```
SELECT column_name(s)
FROM table1
CROSS JOIN table2;
```

CREATE Syntax

Creare un DB

```
CREATE DATABASE databasename;
```

Creare una tabella

```
CREATE TABLE table_name (
    column1 datatype constraint,
    column2 datatype constraint,
    column3 datatype constraint,
    CONSTRAINT nomeCostraint UNIQUE (column1, column2)
);
```

Creare una tabella con un default

```
CREATE TABLE table_name (
    column1 INT NOT NULL,
    column2 VARCHAR(255) DEFAULT "this is a default text"
);
```

Constraint

Constraint inseribili nella stessa linea:

- `NOT NULL` - Ensures that a column cannot have a NULL value
- `UNIQUE` - Ensures that all values in a column are different
- `PRIMARY KEY` - A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table
- `FOREIGN KEY` - Prevents actions that would destroy links between tables
- `CHECK` - Ensures that the values in a column satisfies a specific condition
- `DEFAULT` - Sets a default value for a column if no value is specified
- `CREATE INDEX` - Used to create and retrieve data from the database very quickly

AUTO_INCREMENT

```
CREATE TABLE Persons (
  Personid int NOT NULL AUTO_INCREMENT,
  LastName varchar(255) NOT NULL,
  FirstName varchar(255),
  Age int,
```

```
    PRIMARY KEY (Personid)
);
```

PRIMARY KEY

Primary key semplice

```
CREATE TABLE Persons (
  ID int NOT NULL,
  LastName varchar(255) NOT NULL,
  FirstName varchar(255),
  Age int,
  PRIMARY KEY (ID)
);
```

Primary key composita

```
CREATE TABLE Persons (
  ID int NOT NULL,
  LastName varchar(255) NOT NULL,
  FirstName varchar(255),
  Age int,
  CONSTRAINT PK_Person PRIMARY KEY (ID,LastName)
);
```

FOREIGN KEY

Foreign key semplice

```
CREATE TABLE Orders (
    OrderID int NOT NULL,
    OrderNumber int NOT NULL,
    PersonID int,
    PRIMARY KEY (OrderID),
    FOREIGN KEY (PersonID) REFERENCES Persons(PersonID)
);
```

Primary key composita

```
CREATE TABLE Persons (
  ID int NOT NULL,
  LastName varchar(255) NOT NULL,
  FirstName varchar(255),
  Age int,
  CONSTRAINT PK_Person PRIMARY KEY (ID,LastName)
);
```

MySQL Types

DATE types

- `DATE` - format YYYY-MM-DD
- `DATETIME` - format: YYYY-MM-DD HH:MI:SS
- `TIMESTAMP` - format: YYYY-MM-DD HH:MI:SS
- `YEAR` - format YYYY or YY

NORMAL types

- `CHAR(size)` A FIXED length string (can contain letters, numbers, and special characters). The size parameter specifies the column length in characters - can be from 0 to 255. Default is 1
- `VARCHAR(size)` A VARIABLE length string (can contain letters, numbers, and special characters). The size parameter specifies the maximum column length in characters - can be from 0 to 65535
- `BINARY(size)` Equal to `CHAR()`, but stores binary byte strings. The size parameter specifies the column length in bytes. Default is 1
- `VARBINARY(size)` Equal to `VARCHAR()`, but stores binary byte strings. The size parameter specifies the maximum column length in bytes.
- `TINYBLOB` For BLOBs (Binary Large OBjects). Max length: 255 bytes
- `TINYTEXT` Holds a string with a maximum length of 255 characters
- `TEXT(size)` Holds a string with a maximum length of 65,535 bytes
- `BLOB(size)` For BLOBs (Binary Large OBjects). Holds up to 65,535 bytes of data
- `MEDIUMTEXT` Holds a string with a maximum length of 16,777,215 characters
- `MEDIUMBLOB` For BLOBs (Binary Large OBjects). Holds up to 16,777,215 bytes of data
- `LONGTEXT` Holds a string with a maximum length of 4,294,967,295 characters
- `LONGBLOB` For BLOBs (Binary Large OBjects). Holds up to 4,294,967,295 bytes of data
- `ENUM(val1, val2, val3, ...)` A string object that can have only one value, chosen from a list of possible values. You can list up to 65535 values in an ENUM list. If a value is inserted that is not in the list, a blank value will be inserted. The values are sorted in the order you enter them
- `SET(val1, val2, val3, ...)` A string object that can have 0 or more values, chosen from a list of possible values. You can list up to 64 values in a SET list