SQL ORDER BY

COMS10012 Software Tools

ORDER BY

```
SELECT   <columns>
FROM     <tables>
WHERE    <conditions>

ORDER BY <column> [ASC|DESC]
         [,<column> [ASC|DESC] ...]
```

ORDER BY

```
SELECT name,
round(grade * 100, 0) AS percent
FROM Student
ORDER BY percent DESC;
```

Student
name grade

ORDER BY

```
SELECT name, grade,
grade > 50 AS pass
FROM Student
ORDER BY pass DESC,
        name ASC;
```

name	grade	pass
Anna	60	1
Zoe	70	1
John	35	0
Sophie	45	0

```
SELECT name, grade
FROM Student
ORDER BY grade > 50 DESC, name ASC;
```

Efficiency

For a query that returns N results:

- sort by primary key: $\mathcal{O}(N)$

- sort by indexed column: $\mathcal{O}(N)$
  this includes UNIQUE columns

- everything else: have to sort, $\mathcal{O}(N \log N)$

LIMIT / OFFSET

SELECT ...

[**LIMIT** <int>] [**OFFSET** <int>];

SELECT name **FROM** Ward **LIMIT** 10;

SELECT name **FROM** Ward **LIMIT** 10 **OFFSET** 10;

DANGER

```
SELECT name, grade FROM Student
ORDER BY grade DESC
LIMIT 1;
```

CASE

```
CASE <expression>
  WHEN <value> THEN <value>
  [WHEN <value> THEN <value> ...]
  [ELSE <value>]
END
```

CASE

```
SELECT name,
CASE
   WHEN grade >= 70 THEN '1st'
   WHEN grade >= 60 THEN '2:1'
   WHEN grade >= 50 THEN '2:2'
   ELSE '3rd'
END AS degree
FROM Student ORDER BY degree, name;
```