

SQL Functions and Misc

CIT 381

LIKE - for string pattern matching

WHERE lastname = 'Wilson'; is the same as
WHERE lastname LIKE "Wilson"

However, LIKE allows pattern matching:

'%' - matches any number of characters

'_' - matches one character

ex: SELECT firstname, lastname
FROM customer
WHERE lastname LIKE 'H%'
-- all customers whose last name starts with H

FUNCTIONS

string functions

CONCAT
LENGTH
LOWER
REVERSE
TRIM

ex: SELECT firstname, lastname also try SELECT REVERSE(firstname), LOWER(lastname)
FROM customer
WHERE TRIM(LOWER(lastname)) LIKE 'h%'

math functions

ABS
LOG10
ROUND
SQRT

date functions

DATEDIFF
TIMEDIFF
DAY
DAYNAME
MONTH
MONTHNAME
YEAR

SELECT videoid, DAYNAME(daterented), MONTHNAME(daterented),
DAY(daterented), YEAR(daterented)
FROM rental

VARIABLES

In the previous example, it was tedious to write 'daterented' several times. We can assign the value to a temporary variable.

syntax: @var:=attribute

```
ex: SELECT videoid, DAYNAME(@d:=daterented), MONTHNAME(@d), DAY(@d), YEAR(@d)
    FROM rental
```

```
SELECT videoid, CONCAT(
    DAYNAME(@d:=daterented), ', ',
    MONTHNAME(@d), ', ',
    DAY(@d), ', ',
    YEAR(@d)) AS day
FROM rental
```

PROBLEM

Calculate the pay owed the employees on their time cards. To do this, find the hourly rate from the timecard table, and multiply that times the number of hours worked on the card.

```
SELECT e.firstname, e.lastname, DATE(t.date),
CONCAT('$', ROUND((HOUR(@td:=TIMEDIFF(t.endtime, t.starttime))+
    MINUTE(@td)/60)*h.hourlyrate, 2)) AS pay
FROM employee e INNER JOIN
    (hourlyemployee h INNER JOIN timecard t USING (ssn))
    USING(ssn)
```

AGGREGATE FUNCTIONS - functions that apply to many rows

AVG
COUNT
COUNT(DISTINCT)
GROUP_CONCAT
MAX
MIN
STDEV
SUM

```
ex: SELECT COUNT(cost) AS NUM, AVG(cost) AS AVG, MAX(cost) AS MAX, MIN(cost) AS MIN
    FROM PreviousRental
    WHERE cost>2
```

```
SELECT CONCAT(c.firstname, ' ', c.lastname) AS User,
    GROUP_CONCAT(o.name SEPARATOR ' & ') AS 'Shares With'
FROM customer c INNER JOIN otherusers o USING(accountid)
GROUP BY c.accountid
```