CS 1555

Lecture 6

**SQL – Data Definition Language (continued)**

Date and time

- DATE (10 positions) stores calendar values representing YEAR, MONTH, and DAY: YYYY-MM-DD

- TIME defines HOURS, MINUTES, and SECONDS as HH:MM:SS

- TIME(i) defines i additional decimal fractions of seconds: HH:MM:SS:ddd…d

- TIMESTAMP represents complete date and time with 6 digits after decimal and optional time zone

Functions on dates

- All systems provide functions under different names

- Ex: CAST(string AS DATE)

- Ex: MAKEDATE(int year, int month, int day) or DATE(int year, int month, int day)

- Ex: EXTRACT(month/day/year FROM <date>) or YEAR(<date>), MONTH(<date>), DAY(<date>)

- Can construct date functions using different formats in PSQL

- Ex: TO\_DATE(‘2011-FEB-18’, ‘YYYY-MON-DD’)

- Resolving ambiguity: parses to longest keyword

Intervals

- Results when two dates are subtracted

- Two types: year-month & day-time

- Format: INTERVAL start-field(p) [TO end-field(fs)]

- p is precision (default is 2 digits)

- fs is fractional second precision, only applicable to DAY/TIME

- DAY-TIME intervals: fields can be a contiguous selection from DAY, HOUR, MINUTE, SECOND

- Ex: DAY TO HOUR, DAY TO MINUTE

Operations on dates

- Datetime (+ or -) interval = datetime

- Datetime – datetime = interval

- Interval (\* or /) number = interval

- Interval (+ or -) = interval

Discarding a table

- DROP TABLE <table name> [RESTRICT | CASCADE]

- Restrict removes the table if it is not referenced

- Cascade removes table and all references to it

- Tables have restrict by default

- DROP TABLE CASCADE overwrites having a foreign key with NO ACTION because it is applied at a higher level