CMPE 2400 Databases

Date and Time Functions

Date and Time Functions

- We have a number of built-in functions in SQL that work on Date and Time.
- These are Scalar functions that perform an operation on a date and time input value and return a string, numeric, or date and time value

Date and Time Functions

- MS SQL Server recognizes several *dateparts* which make up the datetime data types. They are as follows:
  - Year yy, yyyy
    - (using 4 digit years is recommended)
  - Quarter qq, q
  - Month mm, m
  - DayOfYear dy, y
  - Day dd, d
  - Week wk, ww
  - Weekday dw, w
  - Hour hh
  - Minute mi, n
  - Second ss, s
  - Millisecond ms
- When smalldatetime values are used, seconds and milliseconds are always considered to be 0

Date and Time Functions

- dateadd (*datepart*, *number*, *date*)
  - Returns a new datetime value based on adding an interval to the specified date
    - This function is *deterministic*
    - *datepart* is the part of the date to adjust.
    - *number* is the amount to increment the *datepart*
    - *date* is the datetime or smalldatetime value to operate on
    - Return value:
      - datetime or smalldatetime depending on *date* data type

Date and Time Functions

- datediff (*datepart*, *startdate*, *enddate*)
  - Returns the difference calculated from subtracting the *startdate* from the *enddate*
    - This function is *deterministic*
    - *datepart* is the part of the date to calculate the difference on.
    - *startdate* is the starting date for the calculation
    - *enddate* is the ending date for the calculation
    - *startdate* and *enddate* may be of data type datetime or smalldatetime
    - Return value:
      - integer representing the number of time units of difference
      - Returns an error if the value is out of range of an integer
      - If the *startdate* is later than the *enddate*, a negative will be returned

Date and Time Functions

- datename (*datepart*, *date*)
  - Returns a character string representing the specified *datepart* of the specified date
    - This function is *non-deterministic*
    - *datepart* is the part of the date to return
    - *date* is the date to examine
    - Return value is of type nvarchar
- datepart (*datepart*, *date*)
  - Returns an integer that represents the specified *datepart* of the specified date
    - This function is *deterministic* except with week or weekday parts
    - *datepart* is the part of the date to return
    - *date* is the date to examine
    - Return value is of type integer

Date and Time Functions

- day (*date*)
  - Returns an integer representing the day *datepart* of the specified date
    - This function is *deterministic*
    - *date* is the date to examine
    - Return value is of type integer
- month (*date*)
  - Returns an integer representing the month *datepart* of the specified date
    - This function is *deterministic*
    - *date* is the date to examine
    - Return value is of type integer
- year (*date*)
  - Returns an integer representing the year *datepart* of the specified date
    - This function is *deterministic*
    - *date* is the date to examine
    - Return value is of type integer

Date and Time Functions

- getdate ( )
  - Returns the current system date and time in the SQL Server 2005 standard internal format for datetime values.
    - This function is *non-deterministic*
    - Return value is of type datetime
- getutcdate ( )
  - Returns the datetime value that represents the current Coordinated Universal Time (UTC) time
    - This function is *non-deterministic*
    - Return value is of type datetime