

NAG Toolbox for MATLAB

x05ab

1 Purpose

x05ab converts from a seven-integer format time and date, as returned by x05aa, into a character string, returned via the function name.

2 Syntax

```
[result] = x05ab(itime)
```

3 Description

x05ab returns a character string of length 30 which contains the date and time as supplied in parameter **itime**. On exit, the character string has the following format:

```
'DAY XXTH MTH YEAR HR:MN:SC.MIL'
```

where

DAY is one of 'SUN', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT',

XX is an integer denoting the day of the month,

TH is one of 'ST', 'ND', 'RD', 'TH',

MTH is one of 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC',

YEAR is the year as a four digit integer,

HR is the hour,

MN is the minute,

SC is the second,

MIL is the millisecond.

If on entry the date in **itime** is invalid, the string returned is '** Illegal date/time **'

4 References

None.

5 Parameters

5.1 Compulsory Input Parameters

1: **itime(7)** – int32 array

A date and time in the format returned by x05aa, as follows:

itime(1) must contain the year as a positive integer.

itime(2) must contain the month, in the range 1–12.

itime(3) must contain the day, in the range 1 to p , where $p = 28, 29, 30$ or 31 , depending on the month and year.

itime(4) must contain the hour, in the range 0–23.

itime(5) must contain the minute, in the range 0–59.

itime(6) must contain the second, in the range 0–59.

itime(7) must contain the millisecond, in the range 0–999.

5.2 Optional Input Parameters

None.

5.3 Input Parameters Omitted from the MATLAB Interface

None.

5.4 Output Parameters

1: **resultcharfun** –

The result of the function.

6 Error Indicators and Warnings

None.

7 Accuracy

The day name included as part of the character string returned by this function is calculated assuming that the date is part of the Gregorian calendar. This calendar has been in operation in Europe since 15 October 1582, and in Great Britain since 14 September 1752. Entry to this function with a date earlier than these will therefore not return a day name that is historically accurate.

8 Further Comments

Two dates stored in character string format, as returned by this function, may be compared by x05ac.

9 Example

```
itime = [int32(1789);  
        int32(7);  
        int32(14);  
        int32(13);  
        int32(11);  
        int32(48);  
        int32(320)];  
[result] = x05ab(itime)  
  
result =  
Tue 14th Jul 1789 13:11:48.320
```