

# free42 Date Tools

Mitch Richling

2021-03-19

Author: Mitch Richling  
Updated: 2021-05-18 21:09:45

Copyright 2021 Mitch Richling. All rights reserved.

## Contents

1	Metadata	1
2	Introduction	1
3	Functionality	1
3.1	The main menu . . . . .	1
3.2	Menu Code . . . . .	2
4	App Code	2
5	EOF	5

## 1 Metadata

The home for this HTML file is: <https://richmit.github.io/hp42/date.html>

A PDF version of this file may be found here: <https://richmit.github.io/hp42/date.pdf>

Files related to this document may be found on github: <https://github.com/richmit/hp42>

Directory contents:

src	-	The org-mode file that generated this HTML document
src_42s	-	Ready to convert source listings for 42s code in this document
docs	-	This html document and associated PDF
bin	-	Importable RAW program files

## 2 Introduction

Aside from the date/time conversion routines, the rest is just wrappers for built in functions to make them print results when called from a program. Why? I wanted to put things like DATE in a nested custom menu, and have them print the date just as if I had directly put the function in a custom menu. ;) Now that free42 has put these into a separate catalog menu, these are somewhat obsolete.

## 3 Functionality

### 3.1 The main menu

Menu	Prog	Description
DATE	LBL 95	Current date*
TIME	LBL 88	Current time*
UTIME		Return current UNIX date/time integer to stack
□□□□		
DT→U		Convert a date (Y) & time (X) pair to a UNIX date/time integer
U→DT		Convert a UNIX date/time integer into date (Y) & time (X) pair
DATE	LBL 95	Current date*
□□□□		
JDATE		Return current Julian day number to stack
□□□□		
D→J		Convert a date to a Julian day number
J→D		Convert a Julian day number to date*
DATE+	LBL 92	Just like built in function*
DDAYS		Just like built in funciton
DOW	LBL 91	Just like built in funciton*
□□□□		
□□□□		
□□□□		

Notes: \* Result is both printed and pushed to the stack

### 3.2 Menu Code

The menu code is generated by the following bit of elisp. You must first define the `MJR-generate-42-menu-code` and `MJR-custom-x-gen` by evaluating the code blocks in the [hp42s-meta.org](http://hp42s-meta.org) file.

```

(MJR-generate-42-menu-code "DMENU" 0 tbl 0 1 'stay 'up 'auto #'MJR-custom-gen-lab #'MJR-custom-gen-sub

oooooooooooooooooooooooooooooooooooooooooooooo
(�MENU)

@0000 DSC: Auto-generated menu program
LBL "DMENU"
LBL 01          @0000 Page 1 of menu DMENU
CLMENU
"DATE"
KEY 1 XEQ 95
"TIME"
KEY 2 XEQ 88
"UTIME"
KEY 3 XEQ "UTIME"
"DT→U"
KEY 5 XEQ "DT→U"
"U→DT"
KEY 6 XEQ "U→DT"
KEY 7 GTO 03
KEY 8 GTO 02
KEY 9 GTO 00
MENU
STOP
GTO 01
LBL 02          @0000 Page 2 of menu DMENU
CLMENU
"DATE"
KEY 1 XEQ 95
"JDATE"
KEY 3 XEQ "JDATE"
"D→J"
KEY 5 XEQ "D→J"
"J→D"
KEY 6 XEQ "J→D"
KEY 7 GTO 01
KEY 8 GTO 03
KEY 9 GTO 00
MENU
STOP
GTO 02
LBL 03          @0000 Page 3 of menu DMENU
CLMENU
"DATE+"
KEY 1 XEQ 92
"DDAYS"
KEY 2 XEQ 04
"DOW"
KEY 3 XEQ 91
KEY 7 GTO 02
KEY 8 GTO 01
KEY 9 GTO 00
MENU
STOP
GTO 03
LBL 00 @0000 Application Exit
EXITALL
RTN
LBL 04          @0000 Action for menu key DDAYS
DDAYS
RTN
@0000 End of label definition

```

#### 4 App Code

```

L4STK          @@## REQ:free42>=3.0
DATE          @@## REQ:free42>=1.4.66
"Date: "
ADATE         @@## REQ:free42>=1.4.66
AVIEW
RTN

oooooooooooooooooooooooooooooooooooooooooooo
0000 DSC: Interactive Current Time
0000 NAM: ITIME
0000 OUT: X: Time in H.MM.SS format
0000 SFX: Prints time even when called from a program
0000 UPD: 2021-03-16
LBL 88
FUNC 01        @@## REQ:free42>=2.5.24
L4STK          @@## REQ:free42>=3.0
TIME          @@## REQ:free42>=1.4.66
"Time: "
ATIME         @@## REQ:free42>=1.4.66
AVIEW
RTN

oooooooooooooooooooooooooooooooooooo
0000 DSC: Current UNIX time
0000 OUT: X: UNIX time
0000 UPD: 2021-03-16
LBL "UTIME"
FUNC 02        @@## REQ:free42>=2.5.24
L4STK          @@## REQ:free42>=3.0
DATE          @@## REQ:free42>=1.4.66
TIME          @@## REQ:free42>=1.4.66
XEQ "DT->U"
RTN

oooooooooooooooooooooooooooooooooooo
0000 DSC: Convert date & time to UNIX time
0000 IN: Y: Date
0000 IN: X: Time
0000 OUT: X: UNIX time
0000 UPD: 2021-03-16
LBL "DT->U"
FUNC 21        @@## REQ:free42>=2.5.24
L4STK          @@## REQ:free42>=3.0
FS? 67          0000 In Y.MD mode
1970.0101
FC? 67          0000 Not in Y.MD mode
1.011970        0000 Works for M.DY & D.MY
RCL ST Z
DDAYS          @@## REQ:free42>=1.4.66
24
x
X<>Y
-HR
+
3600
x
RTN

oooooooooooooooooooooooooooooooooooo
0000 DSC: Interactive U->DT (prints date & time)
0000 IN: X: UNIX time
0000 OUT: Y: Date
0000 OUT: X: Time
0000 SFX: Prints date & time even when called from a program
0000 UPD: 2021-03-16
LBL "U->DT"
FUNC 12        @@## REQ:free42>=2.5.24
L4STK          @@## REQ:free42>=3.0
3600
÷
RCL ST X
24
÷
IP
FS? 67          0000 In Y.MD mode
1970.0101

```

```

FC? 67          @@@@ Not in Y.MD mode
1.011970        @@@@ Works for M.DY & D.MY
X<>Y
DATE+          @@## REQ:free42>=1.4.66
X<>Y
24
MOD            @@## REQ:free42>=1.4.66
-HMS
X<>Y
"Date: "
ADATE          @@## REQ:free42>=1.4.66
X<>Y
"!-[LF]Time: "
ATIME          @@## REQ:free42>=1.4.66
AVIEW
RTN

oooooooooooooooooooooooooooooooooooooooooooooooooooo
@@@ DSC: Interactive DATE+ (prints date)
@@@ NAM: IDATE+
@@@ IN: Y: Date
@@@ IN: X: Integer
@@@ OUT: X: Date + Integer
@@@ UPD: 2021-03-16
LBL 92
FUNC 21          @@## REQ:free42>=2.5.24
L4STK           @@## REQ:free42>=3.0
DATE+          @@## REQ:free42>=1.4.66
"Date: "
ADATE          @@## REQ:free42>=1.4.66
AVIEW
RTN

oooooooooooooooooooooooooooooooooooooooooooooooooooo
@@@ DSC: Interactive DOW (prints day)
@@@ NAM: IDOW
@@@ IN: X: Date
@@@ OUT: X: Integer
@@@ SFX: Prints day of week even when called from a program
@@@ UPD: 2021-03-16
LBL 91
FUNC 11          @@## REQ:free42>=2.5.24
L4STK           @@## REQ:free42>=3.0
DOW             @@## REQ:free42>=1.4.66
"Day of Week: "
70
+
XEQ IND ST X
AVIEW
RTN
LBL 70
"!-SUN"
RTN
LBL 71
"!-MON"
RTN
LBL 72
"!-TUE"
RTN
LBL 73
"!-WED"
RTN
LBL 74
"!-THR"
RTN
LBL 76
"!-FRI"
RTN
LBL 77
"!-SAT"
RTN

oooooooooooooooooooooooooooooooooooooooooooooooooooo
@@@ DSC: Today's Julian day
@@@ OUT: X: Julian day for today
@@@ UPD: 2021-03-16

```

```

LBL "JDATE"
FUNC 01          @@## REQ:free42>=2.5.24
L4STK           @@## REQ:free42>=3.0
DATE            @@## REQ:free42>=1.4.66
XEQ "D→J"
RTN

oooooooooooooooooooooooooooooooooooooooooooo
@@@ DSC: Interactive J→D (prints date)
@@@ NAM: J→D
@@@ IN: X: Date
@@@ OUT: X: Julian day
@@@ UPD: 2021-03-16
LBL "J→D"
FUNC 11          @@## REQ:free42>=2.5.24
L4STK           @@## REQ:free42>=3.0
2440587.5
-
FS? 67           @@@ In Y.MD mode
1970.0101
FC? 67           @@@ Not in Y.MD mode
1.011970         @@@ Works for M.DY & D.MY
X<Y
DATE+           @@## REQ:free42>=1.4.66
"Date: "
ADATE           @@## REQ:free42>=1.4.66
AVIEW
RTN

oooooooooooooooooooooooooooooooooooooooooooo
@@@ DSC: Today's Julian day
@@@ NAM: D→J
@@@ OUT: X: Julian day for today
@@@ UPD: 2021-03-16
LBL "D→J"
FUNC 11          @@## REQ:free42>=2.5.24
L4STK           @@## REQ:free42>=3.0
FS? 67           @@@ In Y.MD mode
1970.0101
FC? 67           @@@ Not in Y.MD mode
1.011970         @@@ Works for M.DY & D.MY
X<Y
DDAYS           @@## REQ:free42>=1.4.66
2440587.5
+
RTN

END

```

5 EOF