

Date! □□□□

11

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1.

date!

`date` `time` `date` `time` 24
Red `date` ISO 8601

Note:

- `date!` 日付を指定する。例: `date! 2024-01-01`。日付を指定する場合は、`date!` の後に日付を指定する。
- `date!` の後に日付を指定する場合は、`date!` の後に日付を指定する。例: `date! 2024-01-01`。

2. □□

date! `make` to

2.1. □□□□□□

Rebol ISO

```
<date>/<time>  
<date>/<time><zone>  
<date>T<time>  
<date>T<time>Z  
<date>T<time><zone>
```

```
<date> 00000000
      <yyyy><sep><mmm><sep><dd>
      <dd><sep><mmm><sep><yyyy>
      <dd><sep><mmm><sep><yy>
```

```
T<date>
<yyyy><mm><dd>
<yyyy>-W<ww>
<yyyy>-W<ww>-<d>
<yyyy>-<ddd>
```

```
<mmm> 000000 0000
<m>
<mon>
<month>
```

```
<time> 00000000
    <hour>:<min>:<sec>
    <hour>:<min>:<sec><zone>
    <hhmmss>
    <hhmmss><zone>
    <hhmmss>.<dec>
    <hhmmss>.<dec><zone>
    <hhmm>
    <hhmm><zone>
```

```
<zone> 0000000000000000
      <sign><hour>
```

<sign><hhmm>

<sec> □□□□□□□□

<SS>

<ss>.<dec>

```
<sep>      : '-' 000 '/'
```

<yyyy> : 344ISO

<yy> : 2000□□□□□□2□□□□

<m> : 00001000020000

<mm> : 000020000

<mon> : 00000300

<month> : □□□□

<d> : 0000000010070

<dd> : 000000001000020000

<ddd> : 0000000030000

<WW> : □□□□□□2□□□□

`<time>` : time![]

<hour> : 000001000020000

```
<min>      : 00001000020000
```

<SS> : 00001000020000

<dec> : □□□□□□□□

```
<sign>      : '+' 000 '-' 000000000000
```

```
<min15>  : <min>000000150000000000
```

<hhmm> : 000000004000000000000000

<hhmmss> : 00000000600000000000

```
date#####
#####
```

```
<dd>-<mon>-<yyyy>
```

```
<dd>-<mon>-<yyyy>/<hour>:<min>:<sec>
```

```
<dd>-<mon>-<yyyy>/<hour>:<min>:<sec><sign><hour>:<min15>
```

[illegible]

Notes:

- 〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇
- 〇〇2〇〇〇〇yy〇〇〇〇〇〇〇〇〇〇〇〇〇50〇〇〇〇〇〇〇2000〇〇〇〇〇〇〇〇〇50〇〇〇〇〇1900〇〇〇〇〇〇〇〇〇〇

date

1999-10-5
1999/10/5
5-10-1999
5/10/1999
5-October-1999
1999-9-11
11-9-1999
5/sep/2012
5-SEPTEMBER-2012

02/03/04
02/03/71

5/9/2012/6:0
5/9/2012/6:00
5/9/2012/6:00+8
5/9/2012/6:0+0430
4/Apr/2000/6:00+8:00
1999-10-2/2:00-4:30
1/1/1990/12:20:25-6

2017-07-07T08:22:23+00:00
2017-07-07T08:22:23Z
20170707T082223Z
20170707T0822Z
20170707T082223+0530

2017-W01
2017-W23-5
2017-W23-5T10:50Z
2017-001
2017-153T10:50:00-4:00

2.2. □□□□□□

```

make date! [<day> <month> <year>]
make date! [<year> <month> <day>]
make date! [<day> <month> <year> <time>]
make date! [<day> <month> <year> <time> <zone>]
make date! [<day> <month> <year> <hour> <minute> <second>]
make date! [<day> <month> <year> <hour> <minute> <second> <zone>]

```

```

<year>    : integer!
<month>   : integer!
<day>     : integer!
<time>    : time!
<zone>    : integer!time!pair!
<hour>    : integer!
<minute>  : integer!
<second>  : integer!

```

Notes:

- 使用 make 函数时，to 后面的日期格式必须与 make 函数中的日期格式一致
- year 和 day 后面的数字必须在 100 到 300 之间，且必须是 100 的倍数，且必须是 3 的倍数，且必须是 300 的倍数

□

```
make date! [1978 2 3]
== 3-Feb-1978

make date! [1978 2 3 5:0:0 8]
== 3-Feb-1978/5:00:00+08:00

make date! [1978 2 3 5:0:0]
== 3-Feb-1978/5:00:00

make date! [1978 2 3 5 20 30]
== 3-Feb-1978/5:20:30

make date! [1978 2 3 5 20 30 -4]
== 3-Feb-1978/5:20:30-4:00

make date! [100 12 31]
== 31-Dec-0100

; 32 isn't a valid day
make date! [100 12 32]
*** Script Error: cannot MAKE/TO date! from: [100 12 32]
*** Where: make

; First field is < 100, so not considered as a year
make date! [99 12 31]
*** Script Error: cannot MAKE/TO date! from: [99 12 31]
*** Where: make
```

3. □□□□□□

□□□□□□□□□□□□ **date!** □□□□□□□□□□□□

3.1. /date

□□

```
<date>/date
<date>/date: <date2>

<date>   : date!□□□□□□word□□□□□□
<date2>  : date!□□
```

□□

□□□□□□□□□□□□time□zone□□□□□□□□□□□□□□□□□□□□□□□□ **date!** □□□□□□□□□□

```
d: now
== 10-Jul-2017/22:46:22-06:00
d/date
== 10-Jul-2017
```

```
d/date: 15/09/2017
== 15-Sep-2017/22:46:22-06:00
```

00

```
<date>/year
<date>/year: <year>
```

```
<date> : date!word
<year> : integer!
```

[illegible]

```
d: now
== 10-Jul-2017/22:46:22-06:00
d/year: 16383
== 16383
d
== 10-Jul-16383/22:46:22-06:00
d/year: 16384
== 16384
d
== 10/Jul/-16384/22:46:22-06:00 ; 16384
d/year: 32767
== 32767
d
== 10/Jul/-1/22:46:22-06:00
d/year: 32768
== 32768
d
== 10-Jul-0000/22:46:22-06:00
```

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11

```
<date>/month
<date>/month: <month>

<date>  : date!word
<month> : integer!
```

11

[illegible]

1

```
d: now
== 10-Jul-2017/22:48:31-06:00
d/month: 12
== 12
d
== 10-Dec-2017/22:48:31-06:00
d/month: 13
== 13
d
== 10-Jan-2018/22:48:31-06:00 ; 
d/month
== 1 ; 
```

3.4. /day

□ □

```
<date>/day
<date>/day: <day>

<date> : date!word
<day>  : integer!
```

11

[illegible]

□

```
d: 1-jan-2017
== 1-Jan-2017
d/day: 32
== 32
d
== 1-Feb-2017
d/day: 0 ; 0
== 0
d
== 31-Jan-2017
```

3.5. /time

□□

```
<date>/time
<date>/time: <time>

<date> : date!word
<time> : time!none!
```

□□

time! time none!

time none! timezone0

□

```
d: now
== 10-Jul-2017/23:18:54-06:00
d/time: 1:2:3
== 1:02:03
d
== 10-Jul-2017/1:02:03-06:00
d/time: none
== 10-Jul-2017
```

3.6. /hour

11

```
<date>/hour
<date>/hour: <hour>
```

```
<date> : date!word
<hour> : integer!
```

11

1

```
d: now
== 10-Jul-2017/23:19:40-06:00
d/hour: 0
== 0
d
== 10-Jul-2017/0:19:40-06:00
d/hour: 24
== 24
d
== 11-Jul-2017/0:19:40-06:00
```

3.7. /minute

11

```
<date>/minute
<date>/minute: <minute>
```

```
<date>      : date!word
<minute>    : integer!
```

11

[illegible]

```
== 10-Jul-2017/23:20:25-06:00
d/minute: 0
== 0
d
== 10-Jul-2017/23:00:25-06:00
d/minute: 60
== 60
d
== 11-Jul-2017/0:00:25-06:00
```

11

11

1

11

11

```
<date>/zone
<date>/zone: <zone>

<date> : date!word
<zone> : time!integer!
```

11

```

zone -16:00 +15:00 time! /zone
zone time

```

integer! 0

000000000015000000000000001500000000000000

1

```
d: 1/3/2017/5:30:0
d/zone: 8
== 1-Mar-2017/5:30:00+08:00

d/zone: -4:00
== 1-Mar-2017/5:30:00-04:00
```

3.10. /timezone

11

```
<date>/timezone
<date>/timezone: <zone>

<date>      : date!word
<timezone>  : integer!time!pair!
```

11

```

##### -16:00  ## +15:00  ### time! ##### /timezone
#####time#####zone#####zone#####time#####

```

```
timezone integer! [0]
```

000000000015000000000000001500000000000000


```
d: 1-jan-2017
== 1-Jan-2017
d/yearday
== 1
d: 31-dec-2017
== 31-Dec-2017
d/yearday
== 365
d: 31-dec-2020
== 31-Dec-2020
d/yearday
== 366 ; 閏年
```

11

```
<date>/weekday
<date>/weekday: <day>

<date>      : date!word
<weekday>   : integer!
```

[illegible]

```
d: now
== 10-Jul-2017/23:25:35-06:00
d/weekday
== 1
d/weekday: 2
== 2
d
== 11-Jul-2017/23:25:35-06:00
d/weekday: 7
== 7
d
== 16-Jul-2017/23:25:35-06:00
d/weekday: 8
== 8
d
== 17-Jul-2017/23:25:35-06:00
```

00

```
<date>/week
<date>/week: <day>

<date> : date!word
<week> : integer!
```

BANK OF AMERICA

[illegible]

```
d: now
== 10-Jul-2017/23:28:07-06:00
d/week
== 28
d/week: 29
== 29
d
== 16-Jul-2017/23:28:07-06:00
d/week: 52
== 52
d
== 24-Dec-2017/23:28:07-06:00
d/week: 53
== 53
d
== 31-Dec-2017/23:28:07-06:00
d/week: 54
== 54
d
== 7-Jan-2018/23:28:07-06:00
```

11

```
<date>/isoweek
<date>/isoweek: <day>

<date>      : date!word
<isoweek>   : integer!
```

ISO

8601

[illegible]


```
d: now
== 10-Jul-2017/23:29:13-06:00
d/isoweek
== 28
d/isoweek: 29
== 29
d
== 17-Jul-2017/23:29:13-06:00
d/isoweek: 52
== 52
d
== 25-Dec-2017/23:29:13-06:00
d/isoweek: 53
== 53
d
== 1-Jan-2018/23:29:13-06:00
```

word

```
<date> : date!word!
<index> : integer!
```

項目番号	項目名
1	date
2	year
3	month
4	day
5	zone
6	time
7	hour
8	minute
9	second
10	weekday
11	yearday

000000	000000
12	timezone
13	week
14	isoweek

3.16. Pick

pick is a command that can be used to pick a date and time from a field.

pick

```
pick <date> <field>
```

```
<date> : date!
```

```
<field> : integer!
```

integer is a command that can be used to pick a date and time from a field.

pick

```
d: now
== 10-Jul-2017/23:35:01-06:00
names: system/catalog/accessors/date!
repeat i 14 [print [pad i 4 pad names/:i 10 pick d i]]
1  date      11-Jul-2017
2  year      2017
3  month     7
4  day       11
5  zone      8:00:00
6  time      21:43:52
7  hour      21
8  minute    43
9  second    52.0
10 weekday   2
11 yearday   192
12 timezone  8:00:00
13 week      28
14 isoweek   28
```

4. pick

4.1. UNIX

UNIX is a command that can be used to pick a date and time from a field.

11

```
to-integer <date>
to-date <epoch>

<date> : date!
<epoch> : UNIXinteger!
```

UNIX UTC UTC UNIX

```
d: 8-Jul-2017/17:49:27+08:00
to-integer d
== 1499507367

to-integer 8-Jul-2017/9:49:27
== 1499507367

to-date to-integer d
== 8-Jul-2017/9:49:27
```

UNIX2038

4.2. □□□□□□□□□□

11

```
to date! <spec>

<spec> : 0000000000000000
```

make 2.20 date!
make

5. ☐ ☐

`00000000000000000000=, ==, <>, >, <, >=, <=, same? minmaxsort 0000000000`

```
3-Jul-2017/9:41:40+2:00 = 3-Jul-2017/5:41:40-2:00
== true

10/10/2017 < 1/1/2017
== false

max 10/10/2017 1/1/2017
== 10-Oct-2017

same? 1/1/1980 1-JAN-1980
== true

sort [1/1/2017 5/10/1999 3-Jul-2017/5:41:40-2:00 1/1/1950 1/1/1980/2:2:2]
== [1-Jan-1950 1-Jan-1980/2:02:02 5-Oct-1999 1-Jan-2017 3-Jul-2017/5:41:40-02:00]
```

□ □

- 20

1

```
20-Feb-1980 + 50
== 10-Apr-1980
```

$$20\text{-Feb-1980} + 3 \\ == 23\text{-Feb-1980}$$

20-Feb-1980 - 25
== 26-Jan-1980

20-Feb-1980 + 100
== 30-May-1980

28-Feb-1980 + 20:30:45
 == 28-Feb-1980/20:30:45

```
28-Feb-1980/8:30:00 + 20:30:45
== 29-Feb-1980/5:00:45
```

```
d: 20-Feb-1980
d/day: d/day + 50
== 10-Apr-1980
```

```
d: 20-Feb-1980
d/month: d/month + 5
== 20-Jul-1980
```

```
d: 28-Feb-1980/8:30:00
d/hour: d/hour + 48
== 1-Mar-1980/8:30:00
```

```
08/07/2017/10:45:00 - 20-Feb-1980/05:30:00
== 13653
```

```
difference 08/07/2017/10:45:00 20-Feb-1980/05:30:0
327677:15:00
```

7.

now OS

- `/utc` UTC
- `/precise` Windows 60 1 Unix

□

```
now
== 8-Jul-2017/18:32:25+08:00
```

```
now/year
== 2017
```

```
now/hour
== 18
```

```
now/month
== 7
```

```
now/day
== 8
```

```
now/hour
== 18
```

```
now/zone
== 8:00:00
```

```
now/utc
== 8-Jul-2017/10:32:25
```

8. □□□□□□□□□□□□□□

8.1. Random

□□

```
random <date>
```

```
<date> : date!□
```

□□

□□□□□□□□□□□□□□□□□□□□□□□□time□timezone□□□□□□□□□□□□□□□□□□□□time□timezone□□□□□□□□

□

```
random 09/07/2017
```

```
== 18-May-1972
```

```
random 09/07/2017
```

```
== 13-Aug-0981
```

```
random 09/07/2017/12:00:00+8
```

```
== 28-Feb-0341/17:57:12+04:00
```

```
random 09/07/2017/12:00:00+8
```

```
== 13-Dec-1062/5:09:12-00:30
```