

Formatting date and time

- We can convert date time information into a string and vice versa
- The function **strftime()** convert **datetime** Information into **string** , strftime() is **instance method**.
- **strptime()** will convert a **string** time into **datetime** , strptime() **static method** inside datetime class
- For conversion they require **control characters** , the following tables contains control characters

%-y	Year without century as a decimal number.
%Y	Year with century as a decimal number.
%H	Hour (24-hour clock) as a zero added decimal number.
%-H	Hour (24-hour clock) as a decimal number.
%I	Hour (12-hour clock) as a zero added decimal number.
%-I	Hour (12-hour clock) as a decimal number.
%p	Locale's AM or PM.
%M	Minute as a zero added decimal number.
%-M	Minute as a decimal number.
%S	Second as a zero added decimal number.

%a	Abbreviated weekday name.
%A	Full weekday name.
%w	Weekday as a decimal number.
%d	Day of the month as a zero added decimal.
%-d	Day of the month as a decimal number.
%b	Abbreviated month name.
%B	Full month name.
%m	Month as a zero added decimal number.
%-m	Month as a decimal number.
%y	Year without century as a zero added decimal number.

%-S	Second as a decimal number.
%f	Microsecond as a decimal number, zero added on the left.
%z	UTC offset in the form +HHMM or -HHMM.
%Z	Time zone name.
%j	Zero padded decimal number
%U	Week number of the year .All days in a new year preceding the first Sunday are considered to be in week 0.
%W	Week number of the year . All days in a new year preceding the first Monday are considered to be in week 0.
%c	Appropriate date and time representation
%x	Appropriate date representation
%X	Appropriate time representation
%%	Single % character

- Lets see this with few examples
- Converting datetime to string (`strftime()`)

```
>>> from datetime import *
>>>
>>> dt1 = datetime(2010,1,1,10,20,30)
>>> dt1
datetime.datetime(2010, 1, 1, 10, 20, 30)
```

%d - date
%B - month name
%A - day name
%Y - year in 4 digit
%H - hours
%M - minutes
%S - seconds

```
>>> dt1.strftime('%d %B, %A %Y. %H:%M:%S')
'01 January, Friday 2010. 10:20:30'
>>>
```

```
>>> dt1.strftime('%-d %b, %a %y. %H:%M:%S')
'1 Jan, Fri 10. 10:20:30'
>>>
```

- Converting string to datetime (`strptime()`)

```
>>> str1 = '10 Jan 2015, 10:15:30'
>>> type(str1)
<class 'str'>
>>> dt2=datetime.strptime(str1,'%d %b %Y, %H:%M:%S')
>>> dt2
datetime.datetime(2015, 1, 10, 10, 15, 30)
>>>
```