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# Python Datetime

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## Python Dates

A date in Python is not a data type of its own, but we can import a module named `datetime` to work with dates as date objects.

### Example

Import the datetime module and display the current date:

```
import datetime

x = datetime.datetime.now()
print(x)
```

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## Date Output

When we execute the code from the example above the result will be:

`2020-04-11 11:45:46.890912`

The date contains year, month, day, hour, minute, second, and microsecond.

The `datetime` module has many methods to return information about the date object.

Here are a few examples, you will learn more about them later in this chapter:

## Example

Return the year and name of weekday:

```
import datetime

x = datetime.datetime.now()

print(x.year)
print(x.strftime("%A"))
```

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## Creating Date Objects

To create a date, we can use the `datetime()` class (constructor) of the `datetime` module.

The `datetime()` class requires three parameters to create a date: year, month, day.

## Example

Create a date object:

```
import datetime

x = datetime.datetime(2020, 5, 17)

print(x)
```

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The `datetime()` class also takes parameters for time and timezone (hour, minute, second, microsecond, tzzone), but they are optional, and has a default value of `0`, (`None` for timezone).

# The strftime() Method

The `datetime` object has a method for formatting date objects into readable strings.

The method is called `strftime()`, and takes one parameter, `format`, to specify the format of the returned string:

## Example

Display the name of the month:

```
import datetime

x = datetime.datetime(2018, 6, 1)

print(x.strftime("%B"))
```

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A reference of all the legal format codes:

Directive	Description	Example	Try it
%a	Weekday, short version	Wed	<a href="#">Try it »</a>
%A	Weekday, full version	Wednesday	<a href="#">Try it »</a>
%w	Weekday as a number 0-6, 0 is Sunday	3	<a href="#">Try it »</a>
%d	Day of month 01-31	31	<a href="#">Try it »</a>
%b	Month name, short version	Dec	<a href="#">Try it »</a>
%B	Month name, full version	December	<a href="#">Try it »</a>
%m	Month as a number 01-12	12	<a href="#">Try it »</a>
%y	Year, short version, without century	18	<a href="#">Try it »</a>
%Y	Year, full version	2018	<a href="#">Try it »</a>

%H	Hour 00-23	17	<a href="#">Try it »</a>
%I	Hour 00-12	05	<a href="#">Try it »</a>
%p	AM/PM	PM	<a href="#">Try it »</a>
%M	Minute 00-59	41	<a href="#">Try it »</a>
%S	Second 00-59	08	<a href="#">Try it »</a>
%f	Microsecond 000000-999999	548513	<a href="#">Try it »</a>
%z	UTC offset	+0100	
%Z	Timezone	CST	
%j	Day number of year 001-366	365	<a href="#">Try it »</a>
%U	Week number of year, Sunday as the first day of week, 00-53	52	<a href="#">Try it »</a>
%W	Week number of year, Monday as the first day of week, 00-53	52	<a href="#">Try it »</a>
%c	Local version of date and time	Mon Dec 31 17:41:00 2018	<a href="#">Try it »</a>
%x	Local version of date	12/31/18	<a href="#">Try it »</a>
%X	Local version of time	17:41:00	<a href="#">Try it »</a>
%%	A % character	%	<a href="#">Try it »</a>

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