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)

## Date Output

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

2022-02-17 23:02:38.143475

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")) # printing the day

## 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)

y = datetime.datetime(2020, 5, 17, 13, 44, 55, 918564)  
print(x)

print(y)

The datetime() class also takes parameters for time and timezone (hour, minute, second, microsecond, tzone), 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")) # print the name of the month. Here print June

A reference of all the legal format codes:

|  |  |  |  |
| --- | --- | --- | --- |
| **Directive** | **Description** | **Example** |  |
| %a | Weekday, short version | Wed | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_a) |
| %A | Weekday, full version | Wednesday | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_a2) |
| %w | Weekday as a number 0-6, 0 is Sunday | 3 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_w) |
| %d | Day of month 01-31 | 31 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_d) |
| %b | Month name, short version | Dec | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_b) |
| %B | Month name, full version | December | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_b2) |
| %m | Month as a number 01-12 | 12 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_m) |
| %y | Year, short version, without century | 18 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_y) |
| %Y | Year, full version | 2018 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_y2) |
| %H | Hour 00-23 | 17 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_h2) |
| %I | Hour 00-12 | 05 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_i2) |
| %p | AM/PM | PM | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_p) |
| %M | Minute 00-59 | 41 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_m2) |
| %S | Second 00-59 | 08 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_s2) |
| %f | Microsecond 000000-999999 | 548513 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_f) |
| %z | UTC offset | +0100 |  |
| %Z | Timezone | CST |  |
| %j | Day number of year 001-366 | 365 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_j) |
| %U | Week number of year, Sunday as the first day of week, 00-53 | 52 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_u2) |
| %W | Week number of year, Monday as the first day of week, 00-53 | 52 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_w2) |
| %c | Local version of date and time | Mon Dec 31 17:41:00 2018 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_c) |
| %C | Century | 20 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_century) |
| %x | Local version of date | 12/31/18 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_x) |
| %X | Local version of time | 17:41:00 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_x2) |
| %% | A % character | % | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_percent) |
| %G | ISO 8601 year | 2018 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_g) |
| %u | ISO 8601 weekday (1-7) | 1 | [Try it »](https://www.w3schools.com/python/trypython.asp?filename=demo_datetime_strftime_u) |
| %V | ISO 8601 weeknumber (01-53) | 01 |  |