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Python Course – Dates in Python

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Introduction to Python datetime module

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Introduction to datetime

- **datetime** is a fast implementation of the datetime type. You have so far seen data types like strings, integers and others. This is yet another data type that we use to handle time – past, present and future as well as associated time computations.

- To use this module, we first have to import it, and then invoke some special methods we shall look at over the next few sessions.

datetime's inner methods and classes

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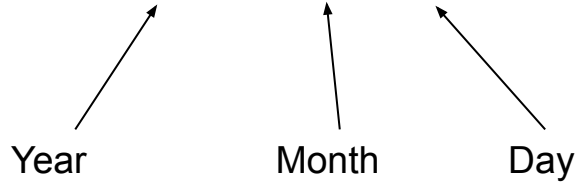
method	Description
`datetime.datetime.today()`	This method is used to get the current local date and time of the day.
`datetime.date.today()`	This method is used to get the current local date (without the time)
`datetime.date.fromisoformat()`	Creates a datetime object using date represented as an ISO 8601 String.
`datetime.date()`	Create a datetime instance by providing keyword arguments such as year, month, day, hour minute and second.
`dir(datetime)`	See the list of methods you have access to 😉

Creating an instance of datetime (Date)

- Datetime has another module named datetime from which we can create an instance of time by providing year, month and date values as integers.

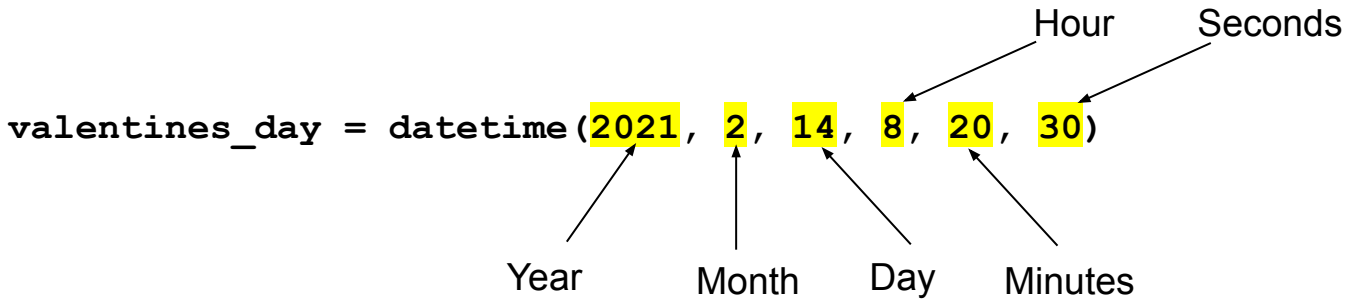
```
from datetime import datetime

datetime(2021, 2, 14)
```



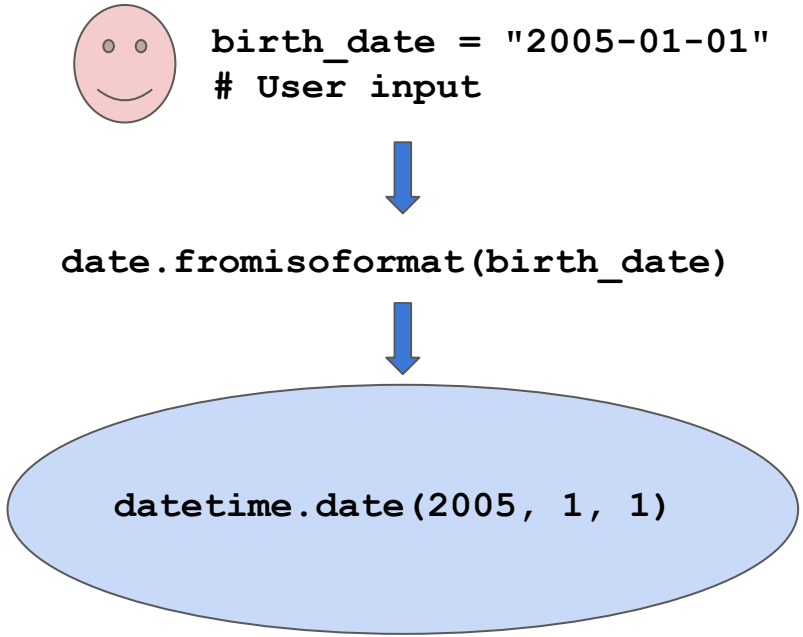
Creating an instance of datetime (Datetime)

- Previously we created only date, but we can provide time (hour, minute and seconds)



Creating a datetime from a string

As you program, some input you receive from users comes in a string format. We should be able to convert that string to a datetime object for further management.



Creating a datetime from a string

- Sometimes users may have a different style of handling dates,
- In the US, dates are usually written "month, day and Year" - 01-02-2005 – means January 2nd, 2005.
- In Germany, the dates are in following style: "Day, Month and Year", so the date would be 1st February, 2005.

Creating a datetime from a string

```
usa_meeting = "January 1, 2005"
```

```
datetime.strptime(usa_meeting, "%B %d, %Y")
```

Creating a datetime from a string

```
german_meeting = "1 January, 2005"
```

```
datetime.strptime(german_meeting, "%d %B, %Y")
```

Converting datetime instance to a string

- A Python program can be used to process time that was previously stored as a datetime object which can be harder to read for a human, so we can make a lot more friendly by using the **datetime.strftime()** method.
- We can call this formating time.


```
datetime.now().strftime("%H:%M:%S")
```

A few codes you can pass to either strftime() or strptime()

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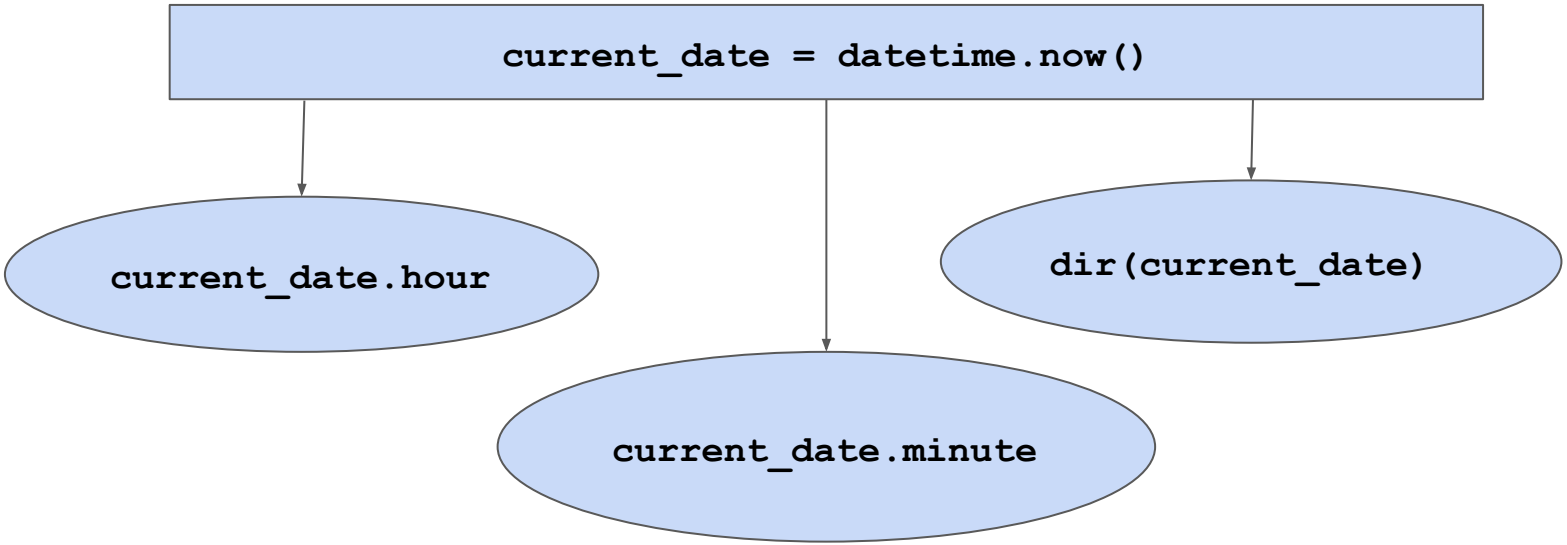
Directive	Description
`%a`	Abbreviated week day name such as Sun, Mon, Thur etc.
`%A`	Full weekday name (Sunday, Monday, Thursday, etc.)
`%w`	Weekday as an integer between 0 and 6.

An exhaustive list can be found in this reference:
https://strftime.org/

datetime instance properties/methods

- Your datetime has some helpful properties you can access such as year, day and month.
- To see other methods that exist, use the dir() function



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