Date time functions in Python

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- Python has a module named **datetime** to work with dates and times.

Example 1: Get Current Date and Time

```
import datetime

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

When you run the program, the output will be something like:

```
2018-12-19 09:26:03.478039
```

Here, we have imported **datetime** module using `import datetime` statement.

One of the classes defined in the `datetime` module is `datetime` class. We then used `now()` method to create a `datetime` object containing the current local date and time.

Example 2: Get Current Date

```
import datetime

date_object = datetime.date.today()
print(date_object)
```

When you run the program, the output will be something like:

```
2018-12-19
```

In this program, we have used `today()` method defined in the `date` class to get a `date` object containing the current local date.

What's inside datetime?

We can use dir() function to get a list containing all attributes of a module.

```
import datetime

print(dir(datetime))
```

When you run the program, the output will be:

```
['MAXYEAR', 'MINYEAR', '__builtins__', '__cached__', '__doc__', '__file__', '__loader__', '_
```

Commonly used classes in the datetime module are:

- date Class
- time Class
- datetime Class
- timedelta Class

datetime.date Class

You can instantiate `date` objects from the `date` class. A date object represents a date (year, month and day).

Example 3: Date object to represent a date

```
import datetime

d = datetime.date(2019, 4, 13)
print(d)
```

When you run the program, the output will be:

```
2019-04-13
```

If you are wondering, `date()` in the above example is a constructor of the `date` class. The constructor takes three arguments: year, month and day.

The variable `a` is a `date` object.

We can only import `date` class from the `datetime` module. Here's how:

```
from datetime import date

a = date(2019, 4, 13)
print(a)
```

Example 4: Get current date

You can create a `date` object containing the current date by using a classmethod named `today()`. Here's how:

```
from datetime import date

today = date.today()

print("Current date =", today)
```

Example 6: Print today's year, month and day

We can get year, month, day, day of the week etc. from the date object easily. Here's how:

```
from datetime import date

# date object of today's date
today = date.today()

print("Current year:", today.year)
print("Current month:", today.month)
print("Current day:", today.day)
```