**Practical 07**

**Aim: Write Python Program to create application which uses date and time in Python.**

**The Epoch:**

The point at which the time starts is called as Epoch.

time.gmtime()

**Date and Time:**

There are two types of date and time objects:

1. Aware
2. Naïve

Some of the constants that are exported by the datetime module are:

1. datetime.MINYEAR
2. datetime.MAXYEAR

The datetime classes are divided into five maine classes:

1. date
2. time
3. datetime
4. timedelta
5. tzinfo

**Time:**

The time class represents the values of time.

**Date:**

The date class indicates the value of the calendar date.

**Date and Time Now**

**Combining date and time**

**Formatting date and time:**

1. **strftime() :**

Date, datetime, and time objects all support a strftime(format) method, to create a string representing the time under the control of an explicit format string.

Syntax: datetime.strftime(format)

1. **strptime() :**

Conversely, the datetime.strptime() class method creates a [datetime](https://docs.python.org/3/library/datetime.html#datetime.datetime) object from a string representing a date and time and a corresponding format string.

Syntax: datetime.strptime(date\_string, format)

|  | **strftime** | **Strptime** |
| --- | --- | --- |
| Usage | Convert object to a string according to a given format | Parse a string into a [datetime](https://docs.python.org/3/library/datetime.html#datetime.datetime) object given a corresponding format |
| Type of method | Instance method | Class method |
| Method of | [date](https://docs.python.org/3/library/datetime.html#datetime.date); [datetime](https://docs.python.org/3/library/datetime.html#datetime.datetime); [time](https://docs.python.org/3/library/datetime.html#datetime.time) | [datetime](https://docs.python.org/3/library/datetime.html#datetime.datetime) |
| Signature | strftime(format) | strptime(date\_string, format) |

**Finding duration using timedelta:**

Timedelta in Python is an object that represents the duration. It is mainly used to calculate the duration between two dates and times. It is also used for retrieving the object with some delta date and time

**Knowing the time taken by the program for execution:**

**Working with the calendar module:**

The calendar module supports calendar related function, which provide detailed calendar for a specified month or year.