Modules

In programming, a module is a piece of software that has a specific functionality.
Modules in Python are simply Python files with a .py extension.
The name of the module will be the name of the file.
A Python module can have a set of functions.

keyword for using any fuction of some specific module is:

step 1 : import the module:

> import modulename or import modulename as short_name

In [47]:
```
import math
math.log(10)
```

Out[47]:
```
2.302585092994046
```

In [48]:
```
math.sqrt(25)
```

Out[48]:
```
5.0
```

In [49]:
```
dir(math)
```

Out[49]:
```
['__doc__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 'acos',
```

```
                'acosh',
                'asin',
                'asinh',
                'atan',
                'atan2',
                'atanh',
                'ceil',
                'comb',
                'copysign',
                'cos',
                'cosh',
                'degrees',
                'dist',
                'e',
                'erf',
                'erfc',
                'exp',
                'expm1',
                'fabs',
                'factorial',
                'floor',
                'fmod',
                'frexp',
                'fsum',
                'gamma',
                'gcd',
                'hypot',
                'inf',
                'isclose',
                'isfinite',
                'isinf',
                'isnan',
                'isqrt',
                'ldexp',
                'lgamma',
                'log',
                'log10',
                'log1p',
                'log2',
```

```
 'modf',
 'nan',
 'perm',
 'pi',
 'pow',
 'prod',
 'radians',
 'remainder',
 'sin',
 'sinh',
 'sqrt',
 'tan',
 'tanh',
 'tau',
 'trunc']
```

You can also import some specific functions of the module as

from module_name import function_name

In [28]:
```
from math import degrees,pi
```

In [51]:
```
pi
```

Out[51]:
```
3.141592653589793
```

In [52]:
```
degrees(pi)
```

Out[52]:
```
180.0
```

you can also list out all the module's functions using dir()

In [33]:
```
dir(math)
```

Out[33]:
```
['__doc__',
 '__loader__',
 '__name__',
```

```
'__package__',
'__spec__',
'acos',
'acosh',
'asin',
'asinh',
'atan',
'atan2',
'atanh',
'ceil',
'comb',
'copysign',
'cos',
'cosh',
'degrees',
'dist',
'e',
'erf',
'erfc',
'exp',
'expm1',
'fabs',
'factorial',
'floor',
'fmod',
'frexp',
'fsum',
'gamma',
'gcd',
'hypot',
'inf',
'isclose',
'isfinite',
'isinf',
'isnan',
'isqrt',
'ldexp',
'lgamma',
'log',
```

```
 'log10',
 'log1p',
 'log2',
 'modf',
 'nan',
 'perm',
 'pi',
 'pow',
 'prod',
 'radians',
 'remainder',
 'sin',
 'sinh',
 'sqrt',
 'tan',
 'tanh',
 'tau',
 'trunc']
```

In [ ]:

You can also import every funciton of the module as:

from module import *

In [53]:
```
from time import *
```

In [ ]:

In [54]:
```
gmtime()
```

Out[54]:
```
time.struct_time(tm_year=2020, tm_mon=6, tm_mday=28, tm_hour=18, tm_min
=17, tm_sec=17, tm_wday=6, tm_yday=180, tm_isdst=0)
```

In [55]:
```
timezone
```

Out[55]:
```
-19800
```

In [ ]: