modules and how to call modules

In [1]:
```
import math
```

In [3]:
```
math.sqrt(16)
```

Out[3]:
```
4.0
```

In [4]:
```
math.pow(2,5)
```

Out[4]:
```
32.0
```

In [5]:
```
dir(math)
```

Out[5]:
```
['__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 [6]:
```
math.pi
```

Out[6]:
```
3.141592653589793
```

In [7]:
```
math.log(100)
```

Out[7]:
```
4.605170185988092
```

In [8]:
```
math.log10(100)
```

Out[8]:
```
2.0
```

In [9]:
```
math.floor(2.3)
```

Out[9]:
```
2
```

In [10]:
```
math.ceil(2.3)
```

Out[10]:
```
3
```

In [11]:
```
import calendar
```

In [12]:
```
dir(calendar)
```

Out[12]:
```
['Calendar',
 'EPOCH',
 'FRIDAY',
 'February',
 'HTMLCalendar',
 'IllegalMonthError',
 'IllegalWeekdayError',
 'January',
 'LocaleHTMLCalendar',
 'LocaleTextCalendar',
 'MONDAY',
 'SATURDAY',
 'SUNDAY',
 'THURSDAY',
 'TUESDAY',
 'TextCalendar',
 'WEDNESDAY',
 '_EPOCH_ORD',
 '__all__',
 '__builtins__',
 '__cached__',
 '__doc__',
 '__file__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 '_colwidth',
 '_locale',
 '_localized_day',
 '_localized_month',
 '_monthlen',
 '_nextmonth',
 '_prevmonth',
 '_spacing',
 'c',
 'calendar',
 'datetime',
 'day_abbr',
 'day_name',
 'different_locale',
 'error',
 'firstweekday',
 'format',
 'formatstring',
 'isleap',
 'leapdays',
 'main',
 'mdays',
 'month',
 'month_abbr',
 'month_name',
 'monthcalendar',
 'monthrange',
 'prcal',
 'prmonth',
 'prweek',
 'repeat',
 'setfirstweekday',
 'sys',
 'timegm',
 'week',
 'weekday',
 'weekheader']
```

In [13]:
```
cal=calendar.month(2021,2)
```

In [14]:
```
cal
```

Out[14]:
```
'    February 2021\nMo Tu We Th Fr Sa Su\n 1  2  3  4  5  6  7\n 8  9 10 11 12 13 14\n15 16 17 18 19 20 21\n22 23 24 25 26 27 28\n'
```

In [16]:
```
print(cal)
```

```
    February 2021
Mo Tu We Th Fr Sa Su
 1  2  3  4  5  6  7
 8  9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28

```

In [17]:
```
calendar.isleap(2016)
```

Out[17]:
```
True
```

In [18]:
```
calendar.isleap(2021)
```

Out[18]:
```
False
```

In [20]:
```
def calculate_triangle_area(base,height):
    return 1/2*(base*height)
```

In [22]:
```
def calculate_square_area(length):
    return (length*length)
```

In [33]:
```
import functions1
```

In [34]:
```
area_of_squre=functions1.calculate_square_area(7)
```

In [35]:
```
area_of_squre
```

Out[35]:
```
49
```

In [46]:
```
import functions1 as rg
```

In [47]:
```
area_1=rg.calculate_square_area(8)
```

In [48]:
```
area_1
```

Out[48]:
```
64
```

In [49]:
```
area_traingel=rg.calculate_triangle_area(4,10)
```

In [50]:
```
area_traingel
```

Out[50]:
```
20.0
```

In [51]:
```
import function2 as p
```

In [52]:
```
odd_even=p.oddoreven(44)
```

In [53]:
```
odd_even
```

Out[53]:
```
('the', 44, 'is even')
```

json

In [54]:
```
book={}
```

In [66]:
```
book['raghul']={'name':'raghul','address':'mv kovil street','phone':98989,"age":21}
```

In [67]:
```
book
```

Out[67]:
```
{'raghul': {'name': 'raghul',
  'address': 'mv kovil street',
  'phone': 98989,
  'age': 21},
 'gowtham': {'name': 'gowtham',
  'address': '18 mv kovil street',
  'phone': 988469,
  'age': '23'}}
```

In [68]:
```
book['raghul']
```

Out[68]:
```
{'name': 'raghul', 'address': 'mv kovil street', 'phone': 98989, 'age': 21}
```

In [69]:
```
book['raghul']['address']
```

Out[69]:
```
'mv kovil street'
```

In [70]:
```
book['gowtham']={'name':'gowtham','address':'18 mv kovil street','phone':988469,"age":23}
```

In [71]:
```
book['gowtham']
```

Out[71]:
```
{'name': 'gowtham',
 'address': '18 mv kovil street',
 'phone': 988469,
 'age': 23}
```

In [72]:
```
book
```

Out[72]:
```
{'raghul': {'name': 'raghul',
  'address': 'mv kovil street',
  'phone': 98989,
  'age': 21},
 'gowtham': {'name': 'gowtham',
  'address': '18 mv kovil street',
  'phone': 988469,
  'age': 23}}
```

In [76]:
```
book['gowtham']['age']
```

Out[76]:
```
23
```

In [73]:
```
import json
```

In [74]:
```
s=json.dumps(book)
```

In [75]:
```
print(s)
```

```
{"raghul": {"name": "raghul", "address": "mv kovil street", "phone": 98989, "age": 21}, "gowtham": {"name": "gowtham", "address": "18 mv kovil street", "phone": 988469, "age": 23}}
```

In [86]:
```
with open("C:\\Users\\GOWTHAM\\Desktop\\book.txt","w") as f:
    f.write(s)
```

In [92]:
```
p=open("C:\\Users\\GOWTHAM\\Desktop\\book.txt","r")
a=p.read()
```

In [93]:
```
a
```

Out[93]:
```
'{"raghul": {"name": "raghul", "address": "mv kovil street", "phone": 98989, "age": 21}, "gowtham": {"name": "gowtham", "address": "18 mv kovil street", "phone": 988469, "age": 23}}'
```

In [94]:
```
type(a)
```

Out[94]:
```
str
```

In [100]:
```
a['gowtham']
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-100-dc79cf4fc36c> in <module>
----> 1 a['gowtham']

TypeError: string indices must be integers
```

In [96]:
```
books=json.loads(a)
```

In [97]:
```
a
```

Out[97]:
```
'{"raghul": {"name": "raghul", "address": "mv kovil street", "phone": 98989, "age": 21}, "gowtham": {"name": "gowtham", "address": "18 mv kovil street", "phone": 988469, "age": 23}}'
```

In [99]:
```
type(books)
```

Out[99]:
```
dict
```

In [101]:
```
books['gowtham']
```

Out[101]:
```
{'name': 'gowtham',
 'address': '18 mv kovil street',
 'phone': 988469,
 'age': 23}
```

In [108]:
```
for i in books:
    print(books[i])
```

```
{'name': 'raghul', 'address': 'mv kovil street', 'phone': 98989, 'age': 21}
{'name': 'gowtham', 'address': '18 mv kovil street', 'phone': 988469, 'age': 23}
```

In [ ]:
```

```