```
import math
dir(math)
```

```
['__doc__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 'acos',
 'acosh',
 'asin',
 'asinh',
 'atan',
 'atan2',
 'atanh',
 'ceil',
 'copysign',
 'cos',
 'cosh',
 'degrees',
 'e',
 'erf',
 'erfc',
 'exp',
 'expm1',
 'fabs',
 'factorial',
 'floor',
 'fmod',
 'frexp',
 'fsum',
 'gamma',
 'gcd',
 'hypot',
 'inf',
 'isclose',
 'isfinite',
 'isinf',
 'isnan',
 'ldexp',
 'lgamma',
 'log',
 'log10',
 'log1p',
 'log2',
 'modf',
 'nan',
 'pi',
 'pow',
 'radians',
 'remainder',
 'sin',
 'sinh',
 'sqrt',
 'tan',
 'tanh',
 'tau',
 'trunc']
```

```
def hey():
    '''new python module'''

print(hey.__doc__)
```

```
     new python module
```

```
#gcd returns the greatest common divisor of two integers
print("gcd is: ",math.gcd(4,8))
```

```
     gcd is:  4
```

```
#cos gives the mathematical value
print("mathematical value: ",math.cos(2))
```

```
     mathematical value:  -0.4161468365471424
```

```
print("degrees: ",math.degrees(20))
```

```
     degrees:  1145.9155902616465
```

```
print(" hyperbolic sin value: ",math.sinh(20))
```

```
      hyperbolic sin value:  242582597.70489514
```

```
import statistics
dir(statistics)
```

```
     ['Decimal',
      'Fraction',
      'StatisticsError',
      '__all__',
      '__builtins__',
      '__cached__',
      '__doc__',
      '__file__',
      '__loader__',
      '__name__',
      '__package__',
      '__spec__',
      '_coerce',
      '_convert',
      '_counts',
      '_exact_ratio',
      '_fail_neg',
      '_find_lteq',
      '_find_rteq',
      '_isfinite',
      '_ss',
      '_sum',
      'bisect_left',
      'bisect_right',
      'collections',
```

```
 'groupby',
 'harmonic_mean',
 'math',
 'mean',
 'median',
 'median_grouped',
 'median_high',
 'median_low',
 'mode',
 'numbers',
 'pstdev',
 'pvariance',
 'stdev',
 'variance']
```

```
data=[1,4,2,3,4,3]
x= statistics.mean(data)
print("mean is: ",x)
```

```
mean is:  2.8333333333333335
```

```
y=statistics.median(data)
print("median is: ",y)
```

```
median is:  3.0
```

```
import collections
dir(collections)
```

```
['ChainMap',
 'Counter',
 'OrderedDict',
 'UserDict',
 'UserList',
 'UserString',
 '_Link',
 '_OrderedDictItemsView',
 '_OrderedDictKeysView',
 '_OrderedDictValuesView',
 '__all__',
 '__builtins__',
 '__cached__',
 '__doc__',
 '__file__',
 '__getattr__',
 '__loader__',
 '__name__',
 '__package__',
 '__path__',
 '__spec__',
 '_chain',
 '_collections_abc',
 '_count_elements',
 '_eq',
 '_heapq',
 '_iskeyword',
```

```
 '_itemgetter',
 '_nt_itemgetters',
 '_proxy',
 '_recursive_repr',
 '_repeat',
 '_starmap',
 '_sys',
 'abc',
 'defaultdict',
 'deque',
 'namedtuple']
```

```
from collections import Counter
#sequence of items
print(Counter(['B','C','D']))
print(Counter({'A':2,'B':3}))
print(Counter(A=2,B=3))
```

```
Counter({'B': 1, 'C': 1, 'D': 1})
Counter({'B': 3, 'A': 2})
Counter({'B': 3, 'A': 2})
```

```
import random
dir(random)
```

```
 'SG_MAGICCONST',
 'SystemRandom',
 'TWOPI',
 '_BuiltinMethodType',
 '_MethodType',
 '_Sequence',
 '_Set',
 '__all__',
 '__builtins__',
 '__cached__',
 '__doc__',
 '__file__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 '_acos',
 '_bisect',
 '_ceil',
 '_cos',
 '_e',
 '_exp',
 '_inst',
 '_itertools',
 '_log',
 '_os',
 '_pi',

 '_random',
 '_sha512',
 '_sin',
 '_sqrt',
 '_test',
```

```
        '_test_generator',
        '_urandom',
        '_warn',
        'betavariate',
        'choice',
        'choices',
        'expovariate',
        'gammavariate',
        'gauss',
        'getrandbits',
        'getstate',
        'lognormvariate',
        'normalvariate',
        'paretovariate',
        'randint',
        'random',
        'randrange',
        'sample',
        'seed',
        'setstate',
        'shuffle',
        'triangular',
        'uniform',
        'vonmisesvariate',
        'weibullvariate']
```

```
# import random
import random
# prints a random value from the list
list1 = [2,4,6,4,5]
print(random.choice(list1))
```

```
2
```

```
import random

print(random.randint(3, 9))
```

```
9
```

```
import random

mylist = ["section", "class", "name"]
random.shuffle(mylist)

print(mylist)
```

```
['section', 'class', 'name']
```

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