

Math Module Functions

ceil(x)	Returns the smallest integer greater than or equal to x
copysign(x, y)	Returns x with the sign of y
fabs(x)	Returns the absolute value of x
factorial(x)	Returns the factorial of x
floor(x)	Returns the largest integer less than or equal to x
fmod(x, y)	Returns the remainder when x is divided by y
isfinite(x)	Returns True if x is neither an infinity nor a NaN (Not a Number)
isinf(x)	Returns True if x is a positive or negative infinity
isnan(x)	Returns True if x is a NaN
ldexp(x, i)	Returns $x \cdot 2^i$
modf(x)	Returns the fractional and integer parts of x
exp(x)	Returns e^x
expm1(x)	Returns $e^x - 1$
log(x[, base])	Returns the logarithm of x to the base (defaults to e)
log2(x)	Returns the base-2 logarithm of x
log10(x)	Returns the base-10 logarithm of x
pow(x, y)	Returns x raised to the power y
sqrt(x)	Returns the square root of x
acos(x)	Returns the arc cosine of x
asin(x)	Returns the arc sine of x
atan(x)	Returns the arc tangent of x
atan2(y, x)	Returns $\text{atan}(y/x)$
cos(x)	Returns the cosine of x
hypot(x, y)	Returns the Euclidean norm, $\sqrt{x^2 + y^2}$
sin(x)	Returns the sine of x
tan(x)	Returns the tangent of x
degrees(x)	Converts angle x from radians to degrees
radians(x)	Converts angle x from degrees to radians
gamma(x)	Returns the Gamma function at x
lgamma(x)	Returns the natural logarithm of the absolute value of the Gamma function at x
pi	Mathematical constant, the ratio of circumference of a circle to it's diameter (3.14159...)

Math Module Functions (cont)

e mathematical constant e (2.71828...)

*** import math and use math.fun()**

Sets Functions

S.add(e)	Adds the element e to the set S
S1.update(S2)	Adds the items specified in the set S2 to the set S1
S.remove(e)	Remove the element e from the set S
S.pop()	Removes any element from the set S
S.clear()	Remove all element from the set S
S.copy()	Creates a copy of the set S
S1.union(S2)	Returns a set containing elements from both S1 and S2
S1.intersection(S2)	Returns a set containing elements common in set S1 and S2
S1.difference(S2)	Returns a set containing elements in set S1 but not in S2
S1.symmetric_difference(S2)	Returns a set containing elements which are in one of the either sets S1 and S2, but not in both

String Functions

S.count(str)	Counts the number of times string str occurs in string S
S.find(str)	Returns index of first occurrence of string str in string S, and -1 if str is not present in string S
S.rfind(str)	Returns index of last occurrence of string str in string S, and -1 if str is not present in string S
S.capitalize()	Returns a string that has first letter of the string S in uppercase and rest of the characters in lowercase
S.title()	Returns a string that has first letter of every word in the string S in uppercase and rest of the characters in lowercase
S.lower()	Returns a string that has all uppercase characters in string S converted into lowercase characters



String Functions (cont)

S.upper()	Returns a string that has all lower characters in string S converted into uppercase characters
S.swapcase()	Returns a string that has all lowercase characters in string S converted into uppercase characters and vice versa
S.isupper()	Returns True if all alphabets in string S are in uppercase, else False
S.islower()	Returns True if all alphabets in string S are in lowercase, else False
S.istitle()	Returns True if string S is in titlecase
S.replace(str1, str2)	Returns a string that has every occurrence of string str1 in S replaced by with the occurrence of string str2
S.strip()	Returns a string that has whitespaces in S removed from start and end
S.lstrip()	Returns a string that has whitespaces in S removed from start
S.rstrip()	Returns a string that has whitespaces in S removed from end
S.split(delimiter)	Returns a list formed by splitting the string S into various substring. The delimiter is used to mark the split points
S.partition(delimiter)	Partitions the string S into two parts base on delimiter and returns a tuple comprising of string before delimiter
S.join(sequence)	Returns a string comprising of elements of the sequence separated by delimiter S
S.isspace()	Returns True if all characters in string S comprise of whitespace characters only, i.e. ' ', '\n', '\t' else False
S.isalpha()	Returns True if all characters in string S comprise of alphabets only, else False

String Functions (cont)

S.isdigit()	Returns True if all characters in string S comprise of digits only, else False
S.isalnum()	Returns True if all characters in string S comprise of alphabets and digits only, else False
S.startswith(str)	Returns True if string S starts with string str , else False
S.endswith(str)	Returns True if string S ends with string str , else False
S.encode(str)	Returns S in encoded format according to the given encoding scheme
S.decode(str)	Returns the decoded string S according to the given encoding scheme

List

L.append(e)	Adds the element e to the end of the list L
L.extend(L2)	Adds the items specified in the list L2 at the end of the list L
L.remove(e)	Remove the element e from the list L
L.pop(i)	Removes the element specified at index i from the list L *
L.count(e)	Returns count of occurrence of element e in list L
L.index(e)	Returns index of element e from list L
L.insert(i, e)	Returns element e at the index i in list L
L.sort()	Sorts the elements of the list L
L.reverse()	Reverses the order elements in list L

File Handling

open(filename, mode)	Open a file and store it as an object
file.close()	Close a file which is opened
file.read()	Read whole data from file
file.readline()	Read a line from file
file.readlines()	Read all the lines in a list from file
file.write('data')	Write data in a file

* Mode can be 'r', 'w' and 'a'

