python Cheat Sheet

Math

Number Theoretic

ceil(x) copysign(x,y)
fabs(x) factorial(x)
floor(x) fmod(x,y)
frexp(x) fsum(iterable)
isinf(x) isnan(x)
ldexp(x,i) modf() trunc()

Power & Logarithmic

exp(x) log(x[, base])
log1p(x) log10(x)
pow(x,y) sqrt(x)

Trigonometric Functions

acos(x) asin(x) atan(x)
atan2(y,x) cos(x) hypot(x,y)
sin(x) tan(x)

Angular Conversion

degrees(x) radians(x)

Hyperbolic Functions

acosh(x) asinh(x)
atanh(x) cosh(x)
sinh(x) tanh(x)

Constants

math.pi
The mathmatical constant of pie = 3.141592.... up to the available precision
math.e
The mathmatical constant e = 2.718281.... up to the available precision

String Formatting

Formatting Operations

'd' Signed integer decimal 'i' Signed integer decimal 'o' Signed octal value 'u' Obsolete type - it was identical to 'd'
'x' Signed hexadecimal (lowercase) 'X' Signed hexidecimal (uppercase) 'e' Floating point exponential format (lowercase)
'E' Floating point exponential format (uppercase) 'f' Floating point decimal format 'F' Floating point decimal format
'g' Floating point format. Uses the lowercase exponential format if the exponent is less than -4 or not less than precision, otherwise it uses the decimal format
'G' Floating point format. Uses the uppercase exponential format if the exponent is less than -4 or not less than precision, otherwise it uses the decimal format
'c' Single character (accepts either integer or single character string) 'r' String (converts any Python object using repr())
's' String (converts any Python object using str()) '%' No argument is converted, adds a % character in the end result

File

Methods

close() flush() fileno()
isatty() next() read([size])
readline ([size]) readlines([size])
xreadlines() seek(offset[, whence])
tell() truncate([size])
write(str) writelines(sequence)

Attributes

closed encoding
errors mode
name newlines
softspace

Class

Special Methods

__new__(cls) __lt__(self, other) __init__(self, args)
__le__(self, other) __del__(self) __gt__(self, other)
__repr__(self) __ge__(self, other) __str__(self)
__eq__(self, other) __cmp__(self, other)
__ne__(self, other) __index__(self) __nonzero__(self)
__hash__(self) __getattr__(self, name)
__getattribute__(self, name) __setattr__(self, name, attr)
__delattr__(self, name) __call__(self, args, kwargs)

Random

Functions

seed([x]) getstate() vonmisesvariate(mu,kappa)
setstate(state) jumpahead(n) paretovariate(alpha)
getrandbits(k) randint(a,b) weibullvariate(alpha,beta)
randrange([start], stop[, step]) lognormvariate(mu,sigma)
choice(seq) shuffle(x[, random]) normalvariate(mu, sigma)
sample(population,k) random() gammevariate(alpha,beta)
uniform(a,b) triangular(low,high,mode) gauss(mu,sigma)
betavariate(alpha,beta) expovariate(lambd)

Array

Array Methods

append(x) buffer_info()
byteswap() count(x)
extend(iterable) fromfile(f,n)
fromlist(list) fromstring(s)
fromunicode(s) index(x)
insert(i,x) pop([i]) remove(x)
reverse() tofile(f) tolist()
tostring() tounicode()

Indexes & Slices

a=[0,1,2,3,4,5]
b=a[:] Shallow copy of a
a[1:] [1,2,3,4,5]
a[5:] [0,1,2,3,4]
a[-2:] [0,1,2,3]
a[1:3] [1,2]
a[1:-1] [1,2,3,4]

len(a) 6
a[0] 0
a[5] 5
a[-1] 5
a[-2] 4

OS

OS Variables

altsep Alternative separator
curdir Current dir string
defpath Default search path
devnull Path of null device
extsep Extension separator
pardir Parent dir string
pathsep Patch separator
sep Path separator
name name of OS
linesep Line separator

SYS

platform Current platform
stdin, stdout, stderr File objects for I/O
version_info Python version info
winver Version number

SYS Variables

argv Command line args
builtin_module_names Linked C modules
check_-interval Signal check frequency
exec_prefix Root directory
executable Name of Executable
exitfunc Exit function name
modules Loaded modules
path Search path

SYS Arg V

sys.argv[0] foo.py
sys.argv[1] bar
sys.argv[2] -c
sys.argv[3] qux
sys.argv[4] --h

String

String Methods

capitalize() center(width[, fillchar]) count(sub[, start[, end]])
decode encode([encoding[, errors]]) isalnum()
endswith(suffix[, start[, end]]) expandtabs([tabsize])
find(sub[, start[, end]]) format(*args, **kwargs) isalpha()
index(sub[, start[, end]]) isdigit() islower() isspace() istitle()
isupper() join(iterable) ljust(width[, fillchar]) lower()
lstrip([chars]) partition(sep) replace(old, new[, count])
rfind(sub[, start[, end]]) rindex(sub[, start[, end]])
rjust(width[, fillchar]) rpartition(sep) rsplit([sep[, maxsplit]])
rstrip([chars]) split([sep[, maxsplit]]) splitlines([keepends])
startswith(prefix[, start[, end]]) strip([chars]), swapcase, title()
translate(table[, deletechars]), upper() zfill(width)
isnumeric() isdecimal()

Set & Mapping

Set Types

len(s) x in s x not in s isdisjoint(other)
issubset(others) issuperset union(other...)
intersection(other...) difference(other...)
symmetric_difference(other) copy() update()
intersection_update() difference_update()
symmetric_difference_update() add(elem)
remove() discard(elem) pop() clear()

Mapping Types

len(d) d[key] d[key]=value
del d[key] key in d key not in d
iter(d) clear() copy() items()
fromkeys(seq[, value]) keys()
get(key[, default]) has_key(key)
iteritems() iterkeys()
itervalues() popitem()
pop(key[, default])
setdefault(key[, default])
update([other])
values

Date Time

Time Object

replace([hour[, minute[, second[, microsecond[, tzinfo]]]]])
isoformat() __str__() strftime() utcoffset() dst() tzname()

Datetime Object

date() time() timetz() toordinal() weekday() isoweekday() isocalendar()
replace([year[, month[, day[, hour[, minute[, second[, microsecond[, tzinfo]]]]]]]])
astimezone(tz) utcoffset() dst() tzname() timetuple() utctimetuple()
isoformat() __str__() ctime() strftime()

Date Object

replace((year,month,day)) timetuple()
toordinal() weekday()() isoweekday()()
isocalendar()() isoformat() __str__()
ctime() strftime()

Date Formatting

%a Abbreviated weekday (Mon) %A Weekday (Monday)
%b Abbreviated month name (Nov) %B Month name (November)
%c Date and time %d Day (leading zeros) (01 to 31)
%H 24 hour (leading zeros) (00 to 23) %I 12 hour (leading zeros) (01 to 12)
%j Day of year (001 to 366) %m Month (01 to 12) %M Minute (00 to 59)
%p AM or PM %S Second (00 to 61?) %U Week number1 (00 to 53)
%w Weekday2 (0 to 6) %W Week number3 (00 to 53) %x Date
%X Time %y Year without century (00 to 99) %Y Year (2016)
%Z Time zone (EST) %% A literal "%" character (%)