Python Built-in Functions

1. Python abs() Function

The python **abs()** function is used to return the absolute value of a number.

integer = -20
print('Absolute value of -40 is:', abs(integer))

```
x = abs(3+5j)
print(x)
```

2. Python min() and max() Function

```
a=[1,5,3,9]
b=[1,4,6,3,7]

print(max(a))
print(min(a))
```

3. Python bin() Function

The python bin() function is used to return the binary representation of a specified integer.

A result always starts with the prefix 0b.

```
print(bin(10))
```

4. bool() Function

The bool() function returns the boolean value of a specified object.

The object will always return True, False:

The object is empty, like [], (), {}

The object is False

The object is 0

The object is None

```
x = 10
y = 10
print(bool(x == y))

z = 'Creative Design'
print(bool(z))
```

5. Python sum() Function

python **sum()** function is used to get the sum of numbers of an iterable, i.e. list.

Parameters

iterable - iterable can be list, tuples, and dictionaries, but an iterable object must contain numbers.

start - The start is added to the sum of numbers in the iterable. If start is not given in the syntax, it is assumed to be 0

```
s=sum([1,2])
print(s)

s = sum([1, 2, 2], 10)
print(s)
```

```
s = sum([1 + 2j, 3 + 4j])
print(s)

s = sum([1 + 2j, 3 + 4j], 2 + 2j)
print(s)

s = sum([1 + 2j, 2, 1.5 - 2j])
print(s)
```

6. Python float() Function

The python **float()** function returns a floating point number from a number or string.

```
print(float(8))
print(float(7.19))
```

String to float

```
print(float("-24.17"))
```

String to float with white space

```
print(float("    -17.15\n"))
```

7. Python format() Function

format(value, format)

```
# d, f and b are a type

# integer
print(format(123, "d"))

# float arguments
print(format(123.4567898, "f"))

# binary format
print(format(12, "b"))
```

'<' - Left aligns the result (within the available space)
'>' - Right aligns the result (within the available space)
'^' - Center aligns the result (within the available space)
'=' - Places the sign to the left most position
'+' - Use a plus sign to indicate if the result is positive or negative
'-' - Use a minus sign for negative values only
' ' - Use a leading space for positive numbers
',' - Use a comma as a thousand separator
'_' - Use a underscore as a thousand separator
'b' - Binary format
'c' - Converts the value into the corresponding unicode character
'd' - Decimal format
'e' - Scientific format, with a lower case e
'E' - Scientific format, with an upper case E
'f' - Fix point number format
'F' - Fix point number format, upper case
'g' - General format
'G' - General format (using a upper case E for scientific notations)
'o' - Octal format
'x' - Hex format, lower case
'X' - Hex format, upper case
'n' - Number format
'%' - Percentage format

8. Python pow() Function

Python **pow()** function is used to compute the powers of a number.

It returns x to the power of y modulus z if a third argument(z) is present, i.e. (x, y) % z.

Signature

pow(x, y, z)

x: It is a number, a base

y: It is a number, an exponent.

z (optional): It is a number and the modulus.

```
# positive x, positive y (x**y)
print(pow(4, 2))
```

```
# negative x, positive y
print(pow(-4, 2))

# positive x, negative y (x**-y)
print(pow(4, -2))

# negative x, negative y
print(pow(-4, -2))
```

with three parameters

```
x = 4
y = 7
z = 3

print(pow(x, y, z))
```

9. Python eval() Function

The eval() function evaluates the specified expression, if the expression is a legal Python statement, it will be executed.

```
a=2+3-4+(5*6)

print(a)
```

10.Python slice() Function

Python slice() function is used to get a slice of elements from the collection of elements. Python provides two overloaded slice functions.

start: Starting index of slicing.

stop: End index of the slice

step: The number of steps to jump.

```
# Python slice() function example
# Calling function
str1 = "Creative Multimedia"
```

```
slic = slice(0,15,3) # returns slice object
slic2 = slice(-1,0,-3) # returns slice object
# We can use this slice object to get elements
str2 = str1[slic]
str3 = str1[slic2] # returns elements in reverse order
# Displaying result
print(str2)
print(str3)
```

11. divmod( ) function

The divmod() function returns a tuple containing the quotient and the remainder when the first argument i.e, the dividend is divided by the second argument

```
x=divmod(10, 3)
print(x)
```

12. ORD( ) function

The ord() function returns the number representing the Unicode code of a specified character.

```
x = ord("h")
print(x)
```

13. Round() function

It gives a roundoff value for a number, i.e. gives the nearest integer value for a number. This function accepts one argument, either decimal, float or integer and gives roundoff output.

14.sorted() function

```
sorted(iterable,key,reverse)
```

```
t = (3,6,8,2,5,8,10)
print(sorted(t,))
```

15. bool() in Python

Python bool() function is used to return or convert a value to a Boolean value i.e., True or False, using the standard truth testing procedure.

bool() parameters

The bool() method in general takes only one parameter(here x), on which the standard truth testing procedure can be applied. **If no parameter is passed, then by default it returns False**.

Return value from bool()

It can return one of the two values.

- It returns True if the parameter or value passed is True.
- It returns False if the parameter or value passed is False.

Here are a few cases, in which Python's bool() method returns false. Except these all other values return True.

- If a False value is passed.
- If None is passed.
- If an empty sequence is passed, such as (), [], ”, etc
- If Zero is passed in any numeric type, such as 0, 0.0 etc
- If an empty mapping is passed, such as {}.