MATHEMATICAL FUNCTIONS

- Use built-in functions to perform various advanced operations.
- For Example: sqrt() – **math** module – sqrt(16).
- **Module** is a file that contains a group of useful objects like functions, classes or variables.
- 'math' is a module that contains several functions to perform mathematical operations.
- These functions cannot be used with complex numbers.
- These functions with complex numbers, a separate module by the name **'cmath'.**

Example:

```
import math
x=math.sqrt(16)
print(x)
```

#another way

```
import math as m
x=m.sqrt(16)
print(x)
```

#to import one function from the math module

```
from math import sqrt
```

#to import more than one

```
from math import factorial, sqrt
x=sqrt(16)
y=factorial(5)
print(x)
print(y)
```

- To import a module in the python program, we can use **three** different ways:

1. Import modulename (Example: import math)
2. Import modulename as anothername(Example: import math as m)
3. From modulename import obj2, obj2…..(Example: from math import sqrt, factorial)

IMPORTANT MATH FUNCTIONS

Function	Description
ceil(x)	
floor(x)	
degrees(x)	Converts angle value x from radians into degrees.
radians(x)	Converts x from degrees into radians.
sin(x)	
cos(x)	
tan(x)	
exp(x)	Returns exponentiation of x
fabs(x)	Gives the absolute value
factorial(x)	
fmod(x,y)	Returns remainder of division of x and y
fsum(values)	Returns accurate sum of floating point values.
modf(x)	Returns float and integral parts of x.
log10(x)	
log(x,[,base])	Returns the natural logarithm of x of specified base.
sqrt(x)	
pow(x,y)	
gcd(x,y)	
trunc(x)	The real value of x is truncated to integer value and returned.
isinf(x)	Returns true if x is a positive or negative infinity, and false otherwise.
isnan(x)	Returns true if x is a NaN(not a number), and false otherwise