Functions


```
def welcome_function():
    print('Hello There..')
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function()
print('Program ends  here....')
```

```
"C:\Users\Hiren Patel\PycharmProjects
Program starts here....
Hello There..
Welcome to the function of Python
Program ends  here....
```

Functions


```
def welcome_function(name):
    print('Hello ' + name)
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function('Hiren')
print('Program ends  here....')
```

```
Program starts here....
Hello Hiren
Welcome to the function of Python
Program ends  here....
```

```
def welcome_function(name):
    print('Hello ' + name)
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function('Hiren')
welcome_function('Pradip')
print('Program ends  here....')
```

```
Program starts here....
Hello Hiren
Welcome to the function of Python
Hello Pradip
Welcome to the function of Python
Program ends  here....
```

Functions


```
def welcome_function(first_name, last_name):
    print(f'Hello {first_name} {last_name}')
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function('Hiren', 'Patel')
print('Program ends  here....')
```

```
Program starts here....
Hello Hiren Patel
Welcome to the function of Python
Program ends  here....
```

```
def welcome_function(first_name, last_name):
    print(f'Hello {first_name} {last_name}')
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function('Patel', 'Hiren')
print('Program ends  here....')
```

```
Program starts here....
Hello Patel Hiren
Welcome to the function of Python
Program ends  here....
```

```
def welcome_function(first_name, last_name):
    print(f'Hello {first_name} {last_name}')
    print('Welcome to the function of Python')


print('Program starts here....')
welcome_function(last_name='Patel', first_name='Hiren')
print('Program ends  here....')
```

```
Program starts here....
Hello Hiren Patel
Welcome to the function of Python
Program ends  here....
```

Functions


```
def emoji_converter (msg):
    statement = msg.split(" ")
    emojies = {
        ":)": "😀",
        ":(": "😟"
    }
    result = ""
    for word in statement:
        result += emojies.get(word, word) + " "
    return result


message = input("Enter a string : ")
print(emoji_converter(message))
```

```
Enter a string : I am good :)
I am good 😀
```

```
Enter a string : I am sad :(
I am sad 😟
```

```
def square (num):
    return num * num


print(square(3))
```

```
9
```

```
def simple_interest(principal_amount, rate_of_interest, number_of_years):
    return (principal_amount * rate_of_interest * number_of_years) / 100


print(f"Simple Interest is Rs. {simple_interest(1000, 7.5, 5)}")
```

```
Simple Interest is Rs. 375.0
```

Functions


```
num = int(input('Enter a number : '))
print(num)
```

```
Enter a number : 10
10
```

```
Enter a number : abc
Traceback (most recent call last):
  File "C:\Users\Hiren Patel\PycharmProjects\HelloWorld\exception.py", line 1, in <module>
    num = int(input('Enter a number : '))
ValueError: invalid literal for int() with base 10: 'abc'
```

```
try:
    num = int(input('Enter a number : '))
    print(num)
except ValueError:
    print('Invalid Number')
```

```
Enter a number : abc
Invalid Number
```

Module

converters.py

```
def lbs_to_kg(weight):
    return weight * 0.45


def kg_to_lbs(weight):
    return weight / 0.45
```

module.py

```
import converters
from converters import kg_to_lbs

print(converters.lbs_to_kg(100))
print(kg_to_lbs(140))
```

OUTPUT

```
45.0
311.1111111111111
```

converters.py

```
def find_max(number):
    max = number[0]
    for n in number:
        if n > max:
            max =  n
    return max
```

module.py

```
import converters

numbers = [11, -5, 39, 45, 12]
print(converters.find_max(numbers))
```

OUTPUT

```
45
```

Functions and Modules (Standard Modules: sys)

Program

```
import sys
print(sys.version)
```

Output

```
3.7.15 (default, Oct 12 2022, 19:14:55)
[GCC 7.5.0]
```

Program

```
import sys
sys.stdout.write('Python By Hiren')
```

Output

```
Python By Hiren
```

Program

```
import sys
age = 17
if age < 18:
    sys.exit("Age less than 18")
else:
    print("Age is not less than 18")
```

Output

```
An exception has occurred, use %tb to see
the full traceback.
SystemExit: Age less than 18
```

Functions and Modules (Standard Modules: sys)

Program

```
import sys
age = 20
if age < 18:
    sys.exit("Age less than 18")
else:
    print("Age is not less than 18")
```

Output

```
Age is not less than 18
```

Program

```
import sys
print(sys.path)
```

Output

```
['/content', '/env/python', '/usr/lib/python37.zip',
'/usr/lib/python3.7', '/usr/lib/python3.7/lib-dynload', '',
'/usr/local/lib/python3.7/dist-packages',
'/usr/lib/python3/dist-packages',
'/usr/local/lib/python3.7/dist-packages/IPython/extensions',
'/root/.ipython']
```

Program

```
import sys
print(sys.modules)
```

Output

```
{'sys': <module 'sys' (built-in)>, 'builtins': <module
'builtins' (built-in)>, '_frozen_importlib': <module
'importlib._bootstrap' (frozen)>, '_imp': <module '_imp'
(built-in)>, '_thread': <module '_thread' (built-in)>,
'_warnings': <module '_warnings' (built-in)>, '_weakref':
<module '_weakref' (built-in)>, 'zipimport': <module
'zipimport' (built-in)>, '_frozen_importlib_external': <module
'importlib._bootstrap_external' (frozen)>, '_io': <module 'io'
(built-
```

Functions and Modules (Standard Modules: math)

Program

```
import math
print (math.tau)
print (math.e)
print (math.pi)
print (math.inf)
print (-math.inf)
print (math.inf > 10e108)
print (-math.inf < -10e108)
print (math.nan)

a = 2.3
print (math.ceil(a))
print (math.floor(a))

a = 5
print(math.factorial(a))
```

```
a = 15
b = 5
print (math.gcd(b, a))

a = -10
print (math.fabs(a))

test_int = 4
test_neg_int = -3
test_float = 0.00

print (math.exp(test_int))
print (math.exp(test_neg_int))
print (math.exp(test_float))
```

```
Output
6.283185307179586
2.718281828459045
3.141592653589793
inf
-inf
True
True
nan
3
2
120
5
10.0
54.598150033144236
0.049787068367863944
1.0
```