

Loops

For Else

```
a=[1,2,3,4,6,7]
for i in a:
    if i%5=0:
        break
else:
    print("Not Found")
```



Functions



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Python Programing

Functions

Function Definition

```
def greet():  
    print("Hello")  
    print("Good Morning")
```

Passing Parameter to function

Functions

Formal Arguments

```
def add(x,y):  
    c=x+y  
    print(c)
```

add(4,5)

Actual Argument

The diagram illustrates the process of passing parameters to a function. It shows a function definition `def add(x,y):` with two formal arguments, `x` and `y`. Below it, a function call `add(4,5)` is shown with two actual arguments, `4` and `5`. A box is drawn around the formal arguments `(x,y)` in the function definition, and an arrow points from this box to the text 'Formal Arguments'. Another box is drawn around the actual arguments `(4,5)` in the function call, and an arrow points from this box to the text 'Actual Argument'.

Functions

Types of arguments

Position

Keyword

Default

Variable length



Functions

Position Argument

```
def person(name,age):  
    print(name)  
    print(age)
```

```
person("Harinder",29)
```



Keyword Argument

Functions

```
def person(name,age):  
    print(name)  
    print(age)  
person(age=11,name="Harminder")
```



Functions

Default Argument

```
def person(name,age):  
    print(name)  
    print(age)  
person(age=11,name="Harminder")
```



Variable Length Argument

Functions

```
def sum(a,*b):  
    for i in b:  
        c=a+i  
        print(c)
```

```
sum(2,4,6)
```



Keyworded Variable Length Argument

Functions

```
def person(a,**b):  
    print(a)  
    print(b)
```

```
person("Harinder",city="faridabad",age=19)
```



Keyworded Variable Length Argument

Functions

```
def person(a,**b):  
    print(a)  
    for i,j in b.items():  
        print(i,j)
```

```
person("Harinder",city="faridabad",age=19)
```



Returning values from function

Functions

```
def add(x,y):  
    c=x+y  
    return c
```

```
a=add(4,5)  
print(a)
```



Returning multiple values from function

Functions

```
def add_sub(x,y):  
    c=x+y  
    d=x-y  
    return c,d
```

```
a,b=add_sub(4,5)  
print(a,b)
```

Functions

Global & Local Variables

```
a=10  
def hello():  
    a=15  
    print(a)
```

```
hello()
```

```
print(a)
```



Functions

Local Variables can only be used inside function

```
def hello():  
    a=15  
    print(a)  
  
print(a)
```

This code will generate a Error



Global Variables can be used anywhere in
Program

Functions

```
a=10
def hello():
    print(a)

hello()
```



Changing Value of a global Variable

Functions

```
a=10
def hello():
    global a
    a=15
    print(a)
```

```
hello()
print(a)
```



Passing List/tuple/set to a function

Functions

```
def hello(a,b,c):  
    print(a)  
    print(b)  
    print(c)
```

```
a=[1,2,3,4,5]
```

```
b=(1,2,3,4,5)
```

```
c={1,2,3,4,5}
```

```
hello(a,b,c)
```



Anonymous Function(LAMBDA)

Functions

```
f= lambda a,b:a+b
```

```
result = f(5,6)
```

```
print(result)
```



Functions

Using Filter with lambda

```
nums = [2,3,45,6,7,8,80]
```

```
r= filter(lambda n:n%2==0,nums)
```

```
for i in r:  
    print(i)
```

Functions

Using Map with lambda

```
nums = [2,3,45,6,7,8,80]
```

```
r= map(lambda n:n*2,nums)
```

```
for i in r:  
    print(i)
```



Functions

Using Reduce with lambda

```
from functools import reduce  
nums = [2,3,45,6,7,8,80]
```

```
r= reduce(lambda a,b:a+b,nums)
```

```
print(r)
```



Functions

Creating Modules in Python

```
def add(a,b):  
    c=a+b  
    return c
```

```
def sub(a,b):  
    c=a-b  
    return c
```

```
def mul(a,b):  
    c=a*b  
    return c
```



Using User Defined Modules in Python

Functions

```
import hello as h
```

```
r=h.add(3,4)
```

```
print(r)
```


Special Variable



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```
import hi as h
def fun1():
    print("This is function 1")
    h.add()

def fun2():
    print("This is function 2")

def main():
    fun1()
    fun2()
main()
```

```
def add():
    print("This is add function")

def mul():
    print("This is mul function")

def hello():
    add()
    mul()

if __name__ == "__main__":
    hello()
```