Anonymous Functions

Lambda Expression

- In Python, anonymous function is a function that is defined without a name.
- While normal functions are defined using the def keyword, in Python anonymous functions are defined using the lambda keyword.
- Hence, anonymous functions are also called lambda functions.

- A lambda function in python has the following syntax.
  - **lambda arguments: expression**

- Lambda functions can have any number of arguments but only one expression.
- The expression is evaluated and returned.
- Lambda functions can be used wherever function objects are required.

- We use lambda functions when we require a nameless function for a short period of time.
- In Python, we generally use it as an argument to a higher-order function (a function that takes in other functions as arguments).
- Lambda functions are used along with built-in functions like filter(), map() ,reduce() etc.

Consider below application which demonstrate concept of Lambda Functions

```
print("---- Marvellous Infosystems by Piyush Khairnar-----")

print("Demonstration of Lambda : Anonymous Functions")

# Defining regular function

def add(no1,no2):
    return no1 + no2

value1 = 10
value2 = 5

ret = add(value1,value2)

print("Addition is {} with regular function".format(ret))

# Defining lambda function ie anonymous functions

fp = lambda no1,no2 : no1 + no2

ret = fp(value1,value2)

print("Addition is {} with lambda function".format(ret))
```

Output of above application

```
Today — -bash — 79×24
MacBook-Pro-de-MARVELLOUS:Today marvellous$ python AnonymousFunctionLambda.py
----- Marvellous Infosystems by Piyush Khairnar-----
Demonstration of Lambda : Anonymous Functions
Addition is 15 with regular function
Addition is 15 with lambda function
MacBook-Pro-de-MARVELLOUS:Today marvellous$
```