L.D College of Engineering
Pratik Memakiya
Internship: Akash TechnoLabs
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Day 4:-

What I learned ? :

- On this day we learned the most important feature of any programming language which is also extended in Python too which is “Functions”
- In today’s session we get to know about moto behind usage of function which is to perform specific task of any program.
- Then we learned syntax of defining function in python programming language.
- Any function is divided in small parts
    1. “def” keyword
    2. Function name
    3. (arguments)
    4. “:” symbol
    5. Function “body”.
    6. Return statement (optional)
- We also learned about three different types of arguments which can be provided in python function
    1. Default arguments
    2. Keyword arguments
    3. Variable-Length arguments
- We perform all types of arguments program to understand well and this helps us in remembering for long time.
- We also learned about non keyword arguments as well as keyword arguments where in non keyword we provide arguments without using argument name where as in keyword arguments we provide arguments name which is defined in calling function.
- Then after we get the information about Scope of variable which is mainly two typed 1
    1. Global Variable
    2. Local variable
- Variables that are defined inside a function body have a local scope, and those defined outside have a global scope.
- We also get the information about indentation error: expected an indented block’
- After that we get to know about module functionality of python programming.
- That are used to break down big programs in small ones as well as make program or project organized.
- We can define our most used functions in a module and import it, instead of copying their definitions into different programs. We also perform example program.

- Then we dived into operator world and get information about how may type of various operators exists in python programming language.
    1. Arithmetic
    2. Comparison
    3. Logical
    4. Assignment
    5. Membership
    6. Identity
- Arithmetic operators are used to perform arithmetic computing(add, subtract, multiply, Division etc…)
- Logical operators(and,or,not) are used to accomplish logical tasks.
- Like wise we have done all program of these operators.

Task:-Perform all program performed in session

```
C:\Windows\System32\cmd.exe

C:\Users\patel\Desktop\HackerRank>python test.py
----simple function----
hello
----function with arguments----
Hello World
----function with return----
a+b=30
---function with multiple return---
College = LDCE
Department = IT(7th sem)
---Default arguments---
default() : 30
default(4,5) : 9
---Keyword arguments---
keyargs(a=10,b=20) -10
keyargs(b=10,a=20) 10
---Var-length(non-keyword) arguments---
varlength(10,20) :  [10, 20]
varlength(10,20,30) :  [10, 20, 30]
varlength(10,20,30,40) :  [10, 20, 30, 40]
---Var-length(keyword) arguments---
varlengthk(car="BMW",price=2500000) ::: {'car': 'BMW', 'price': 2500000}
varlengthk(car="BMW",price=2500000,country="india") ::: {'car': 'BMW', 'price': 2500000, 'country': 'india'}
----Scope of Variable----
Value inside function :  10
value outside function: 20
----Module Function----
120
```

```
C:\Windows\System32\cmd.exe

C:\Users\patel\Desktop\HackerRank>python operators.py
------------------Operators--------------------
x: 10
y: 6
z: 20
lst: [10, 20, 30, 40, 50, 60, 'hello', 'Guys']
-----------------------------------------------
<-----Arithmetic operators----->
x+y= 16
x-y= 4
x*y= 60
x/y= 1.6666666666666667
x//y= 1
x%y= 4
<-----Comparision Operators----->
 x>y = True
 x<y = False
 x==y = False
 x>=y = True
 x<=y = False
 x!=y = True
<----Logical Operators---->
-----and-----
z is the largest
----or----
enter char:a
a  is Vowel
<----Membership Opearator---->
x in lst: True
y in lst: False
y not in lst: True
<----Identity Opearator---->
x is y: False
x is not y: True
```