Function Solutions

1. Create a function that can accept two arguments, name and age and print its value

```
def demo(name, age):
    print(name, age)
demo("NIELIT", 25)
```

2. Create a function where the tuple is passed as arguments and append it with “Happy Learning”.

```
def fun(sides):
    modsides = ("Happy", "learning")
    sides=sides+modsides
    print (sides)
sides=("Happy", "day")
fun(sides)
```

3. Write a function calculation() such that it can accept two variables and calculate the addition and subtraction of it. And also it must return both addition and subtraction in a single return call

```
def calculation(a, b):
    sum=a+b
    sub=a-b
    return (sum,sub)
a = int(input("enter no 1 "))
b = int(input("enter no 2 "))
res = calculation(a,b)
print("sum and sub of a and b is", res, "respectively")
```

4. Write a function to calculate the sum of numbers from 0 to 10

```
def fun(n):
    if (n==0):
        return 0
    else:
        return(n+fun(n-1))
result=fun(10)
print (result)
```

5. Assign a different name to function and call it through the new name, for example function name is one, but calling the function through another name two

```
def one(name, age):
   print(name, age)
two=one
two("NIELIT", 25)
```

6. Write a function func1() such that it can accept a variable length of argument and print all arguments value

```
def func1(*a):
   for i in a:
      print(i)
func1(20, 40, 60)
func1(80, 100)
```

Lambda Function and Modules

1. Write a Python program to create a function that takes one argument, and that argument will be multiplied with an unknown given number.

```
def func_compute(n):
 return lambda x : x * n
result = func_compute(2)
print("Double the number of 15 =", result(15))
result = func_compute(3)
print("Triple the number of 15 =", result(15))
result = func_compute(4)
print("Four times the number of 15 =", result(15))
result = func_compute(5)
print("Five times the number 15 =", result(15))
```

2. Import builtin module time and find a builtin find inside time so that it gives you the current time

```
from datetime import datetime
now = datetime.now()
print("Current Time =", now)
This code gives you date as well as time

import time
t = time.localtime()
current_time = time.strftime("%H:%M:%S", t)
print(current_time)
This code gives you current time
```

3. Create user defined module named ‘formulas’, where you define a function. Under function, find values for three formulas namely, a^2+b^2+2ab, $a^2 -b^2-2ab$, (a+b)(a-b). Call the user defined modules from another function and try to get output of all three formulas for a=5, b=3

```
import formulas
formulas.fun(5,2)
```

Inside formulas.py

```
def fun(a,b):
    f1= a*a+b*b+2*a*b
    f2 = a*a+b*b-2*a*b
    f3 = (a+b) *(a-b)
    print ("f1 is", f1)
    print("f2 is", f2)
    print("f3 is", f3)
```

4. Write a module in which one function to return biggest of two numbers, another to return smallest of two numbers, another to return numbers are equal, whenever you call the module, automatically it should ask two values to perform comparison.

```
import formulas
formulas.fun()
```

```
def fun():
    a = int(input("Value of a is "))
    b = int(input("Value of b is "))
    if (a>b):
        print ("a is greater than b")
    elif (a == b):
        print("a is equal to b")
    else:
        print("a is lesser than b")
```

5) Write a recursive function to add sum of numbers for n from 1 till n: For eg, if n=10, then it should add 10+9+8+7+6+5+4+3+2+1 and return result as 55

```
def fun(n):
    if (n==0):
        return 0
    else:
        return(n+fun(n-1))
result=fun(10)
print (result)
```

File IO

1. Create a Python program that writes the following three lines to the **myfile.txt** file

First line
second line
third line

```
x=open("file.txt","w")
x.writelines(["First line", "\nSecond line", "\nThird line"])
x.close()
```

2. Write a Python program that replaces the second line with the line: "sorry! The content of this line has been changed! "

```
f = open("file.txt" , "r")
linesContent = f.readlines()
f.close()
f = open("file.txt" , "w")
linesContent[1] = "SECOND LINE\n"
f.writelines(linesContent)
f.close()
```

3. Using the os.rename() method, create a python program to rename an existing file on the desktop called myfile.txt to myfile2.txt.

```
import os
os.rename(r'C:\Users\Gokilapriya\Desktop\myfile.txt',r'C:\Users\Gokilapriya\Desktop\myfile2.txt')
```

4. Write a Python program to read an entire text file.

```
f=open("file.txt" , "r")
linesContent = f.read()
print (linesContent)
f.close()
```