```
#! /usr/bin/python
#Demonstration of String
stringValue = "Wipro Technologies";
x = len(stringValue);
print "The length of given string is %d" % x;
print "The value of the variable is %s" % stringValue;
print "The first location of stringValue variable is %c" %
stringValue[0];
print "The first 5 char of stringValue variable is %s" %
stringValue[0:5];
print "The 6th to 10th of stringValue variable is %s" %
stringValue[6:10];
print "The 6th to end of stringValue variable is \$s" \$
stringValue[6:];
print "Wipro " * 3;
y = stringValue[0:5];
print "The value extracted in variable y is %s" % y;
# /usr/bin/python
#Demonstration of Hash in Python
hashValue= {};
hashValue["India"]=10000000;
hashValue["China"]=15000000;
hashValue["Japan"]=1000000;
hashValue["Usa"]=5000000;
hashValue["Brazil"]=200000;
print "The Complete Hash Values present is ", hashValue;
print "The population of India is ", hashValue["India"];
print "The key values of hashValues are ", hashValue.keys();
print "The values present in the hash variables are ",
hashValue.values();
# /usr/bin/python
#Demonstration of Hash in Python
hashValue= {};
hashValue["India"]=10000000;
hashValue["China"]=15000000;
hashValue["Japan"]=1000000;
hashValue["Usa"]=5000000;
hashValue["Brazil"]=200000;
print "The Complete Hash Values present is ", hashValue;
x = len (hashValue);
print "The Length of the Dictionary is ",x;
print "The type of Variable is ", type(hashValue);
hashValue1 = hashValue.copy();
print "The copied values are ", hashValue1;
```

```
print "The values retrived from hash using items" ,
hashValue.items();
hashValue1["Pakistan"] = 100000;
hashValue.update(hashValue1);
print "The Complete Hash Values present is ", hashValue;
# /usr/bin/python
hashValue = {"India": 10000000, "China": 15000000, "Japan":
1000000, "Usa": 5000000, "Brazil": 200000};
hashValue1 = hashValue.copy();
print "The Complete Hash Values present is ", hashValue;
print "The Copied Hash Values present is ", hashValue1;
x = cmp(hashValue);
if (x == 0):
   print "The Compared values in Hash is same";
elif (x < 0):
   print "The Second hash value is bigger value";
elif (x > 0):
   print "The First hash value is bigger value";
else:
   print "This will not be executed";
print "Thats all Folks";
hashValue1.clear();
print "The Hash Values present after clear is ", hashValue1;
# /usr/bin/python
#Demonstration of Hash in Python
hashValue = {"India": 10000000, "China": 15000000, "Japan":
1000000, "Usa": 5000000, "Brazil": 200000};
print "The Complete Hash Values present is ", hashValue;
print "The Sort of Hash Based on Keys are";
for x in sorted(hashValue.iterkeys()):
    print "%s %s " % (x,hashValue[x]);
print "The Sort of Hash Based on Values are";
for key, value in sorted (hashValue.iteritems(),
key=lambda(k,v):(v,k)):
    print "%s %s " % (key, value);
print "Thats all folks";
#! /usr/bin/python
```

```
#Demonstration of String
firstname=raw input("Enter your First Name");
lastname=raw input("Enter your Last Name");
print "Hello! Your first name is %s" % firstname;
print "Hello! Your last name is %s" % lastname;
fullname = firstname + lastname;
print "Hello! Your full name is %s" % fullname;
#! /usr/bin/python
# Demonstration of Operators in Python
a = input('Enter first number');
b = input('Enter second number');
print "The given numbers are %d and %d" % (a,b);
res = a + b;
print "The Sum is %d " % res;
res = a - b;
print "The Difference is %d" % res;
res = a * b;
print "The Product is %d" % res;
res = a / b;
print "The Division is %d" % res;
res = a ** b;
print "The Exponential is %d " % res;
res = a % b;
print "The Modulus is %d" % res;
#! /usr/bin/python
listValue=[ 10 , 'one', 20 , 'two' , 30 , 'three', 40 , 'four' ,
50 , 'five' ];
print "The given values of the list is" , listValue;
print "The first element of the list item is", listValue[0];
print "The fifth element of the list item is", listValue[5];
print "The range of values from 0 - 5 is", listValue[0:5];
listValue [1] = "ONE";
print "The modified values of the list is " , listValue;
print "The length of the given List is ", len(listValue);
#! /usr/bin/python
```

```
listValue=[ 10 , 'one', 20 , 'two' , 30 , 'three', 40 , 'four' ,
50 , 'five' ];
listValue1 = ['a','b','c','d','e'];
print "The given values of the list is" , listValue;
print "The length of the given List is ", len(listValue);
listValue.append(60);
print "The modified values of the list is " , listValue;
x = listValue.count(10);
print "The value has occured %d times" % x;
print "The length of the given List is ", len(listValue);
listValue.extend(listValue1);
print "The extended list of values of the list is " , listValue;
print "The length of the given List is ", len(listValue);
#! /usr/bin/python
listValue=[ 10 , 'one', 20 , 'two' , 30 , 'three', 40 , 'four' ,
50 , 'five' ];
print "The given values of the list is" , listValue;
x = listValue.index(30);
print "The value given value 30 is present in %d index position"
% X;
y = listValue.pop();
print "The value popped out of the list is " , y;
print "The new values of the list is" , listValue;
listValue.remove(10);
print "The new values of the list is" , listValue;
listValue.sort();
print "The sort values of the list is" , listValue;
listValue.reverse();
print "The reversed of list is" , listValue;
listValue.insert(0,10);
print "The new list of list is" , listValue;
#! /usr/bin/python
print "Welcome to Python Programming!";
print "This is second line"
print "This is third line"
#! /usr/bin/python
#Demonstration of Lists
x = 10
y = x;
print "The value of the variable x is %d" % x;
print "The reference of the variable x is d" % id(x);
#del x;
```

```
#del x,y;
print "The value of the variable x is :" , x;
print "The reference of the variable x is :", id(x);
print "The value of the variable y is :", y;
print "The reference of the variable y is :" , id(y);
#! /usr/bin/python
#Demonstration of References
x = 10
y = x;
print "The value of the variable y is %d" % y;
print "The address of the variable y is :" , id(y);
print "The address of the variable x is :", id(x);
x = 20;
print "The new value of the variable y is %d" % y;
print "The new value of the variable x is %d" % x;
print "The new address of the variable y is: ", id(y);
print "The new address of the variable x is : ", id(x);
#! /usr/bin/python
x=input("Enter first number");
y=input("Enter second number");
print "The given values are %d and %d" % (x,y);
z=x/y;
print "The divided result of the given value is :",z;
z=x//y;
print "The divided result of the given value is :",z;
#! /usr/bin/python
#Demonstration of References
x = 10
y = x;
print "The value of the variable x is %d" % x;
```

```
print "The value of the variable y is %d" % y;
print "The address of the variable y is :" , id(y);
print "The address of the variable x is :", id(x);
#! /usr/bin/python
#Demonstration of References
x = y = z = 10
print "The value of the variable x is %d" % x;
print "The value of the variable y is %d" % y;
print "The value of the variable z is %d" % z;
print "The address of the variable z is :", id(z);
print "The address of the variable y is :" , id(y);
print "The address of the variable x is :", id(x);
#! /usr/bin/python
# Demonstration of Operators in Python
a = input('Enter first number');
b = input('Enter second number');
print "The given numbers are %f and %f" % (a,b);
res = a + b;
print "The Sum is %f " % res;
res = a - b;
print "The Difference is %f" % res;
res = a * b;
print "The Product is %f" % res;
res = a / b;
print "The Division is %f" % res;
res = a ** b;
print "The Exponential is %f " % res;
res = a \% b;
print "The Modulus is %f" % res;
#! /usr/bin/python
tupleValue=(10 , 'one', 20 , 'two' , 30 , 'three', 40 , 'four' ,
50 , 'five');
print "The given values of the list is " , tupleValue;
print "The first element of the list item is", tupleValue[0];
print "The fifth element of the list item is", tupleValue[5];
print "The range of values from 0 - 5 is", tupleValue[0:5];
tupleValue[1]="ONE";
print "The given values of the list is " , tupleValue;
print "The length of the given tuple is ", len(tupleValue);
#! /usr/bin/python
```

```
integerValue = 10;
floatingValue = 123.456;
stringValue = "Welcome to Wipro Technologies";
print "The value stored in integerValue variable is ",
integerValue;
print "The value stored in floating Value variable is ",
floatingValue;
print "The value stored in stringValue variable is ",
stringValue;
print "The value stored in integerValue variable is %d" %
integerValue;
print "The value stored in floating Value variable is %f" %
floatingValue;
print "The value stored in stringValue variable is %s" %
stringValue;
#! /usr/bin/python
integerValue = 10;
floatingValue = 123.456;
stringValue = "Welcome to Wipro Technologies";
print "The value stored is ",
integerValue, floatingValue, stringValue;
print "The values are %d , %f and %s" %
(integerValue, floatingValue, stringValue);
#! /usr/bin/python
# This program is used to display Message on to Screen
print "Welcome to Python Programming!"
print "Thats all Folks";
#! /usr/bin/python
#Demonstration of Conditional Statement
x = 10;
y = 20;
if (x < y):
```

```
print "X is greater than Y"; print "This is next line in
condition"
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Conditional Statement
x = 10;
y = 20;
if(x > y):
    print "X is greater than Y";
else:
    print "Y is greater than X";
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Conditional Statement
x = 10;
y = 20;
if (x > y):
    print "X is greater than Y";
    print "This is true part of the if condition";
else:
    print "Y is greater than X";
    print "This is false part of the if condition";
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Conditional Statement
x = 10;
y = 20;
z = 30;
if (x > y):
    if (x > z):
        print "X is Biggest of All";
    else:
        print "Z is Biggest of All";
else:
    if (y > z):
```

```
print "Y is Biggest of All";
    else:
        print "Z is Biggest of All";
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Conditional Statement
a='E';
if(a=='a'):
    print "The given character is vowel = a";
elif(a=='e'):
    print "The given character is vowel = e";
elif(a=='i'):
    print "The given character is vowel = i";
elif(a=='o'):
    print "The given character is vowel = o";
elif(a=='u'):
    print "The given character is vowel = u";
else:
    print "The given character not found";
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Loops
x=1;
while (x \le 10):
    print x
    x+=1;
print "Thats all folks!"
#! /usr/bin/python
#Demonstration of Loops
for x in range (1,10):
    print x;
print "Thats all Folks!";
#! /usr/bin/python
#Demonstration of Loops
```

```
x = "Wipro Technologies";
z = 0;
for y in x:
    print "%d %s" % (z,y);
    z+=1;
print "Thats all Folks!";
#! /usr/bin/python
#Demonstration of Conditional Statement
x = 100;
y = 20;
if (x > y \text{ and } x == 100):
    print "X is greater than Y";
else:
    print "Y is greater than X";
print "Thats all folks"
#! /usr/bin/python
#Demonstration of Loops
for x in (10,5,-2,40,100,1,25):
    print x;
print "Thats all Folks!";
#! /usr/bin/python
#Demonstration of Loops
for x in range (1, 10, 2):
    print x;
print "Thats all Folks!";
#! /usr/bin/python
def add():
    print "Executing Addition Function"
def sub():
```

```
print "Executing Subtract Function"
def mul():
   print "Executing Multiply Function"
def div():
   print "Executing Division Function"
def default():
   print "Executing Default";
print "Enter any operator for Arithmetic Operation"
op=raw input("Enter any Operator")
values = { "+": add, "-": sub, "*":mul, "/": div}[op]();
#! /usr/bin/python
def add():
   print "Executing Addition Function"
def sub():
   print "Executing Subtract Function"
def mul():
   print "Executing Multiply Function"
def div():
   print "Executing Division Function"
def default():
   print "Executing Default";
try:
     op=input("Enter any value between 1 - 4")
     values = { 1: add, 2: sub, 3:mul, 4: div}[op]();
except KeyError:
     print "You have entered Invalid Value";
#! /usr/bin/python
a=10;
print "Executing While Loop"
while (a!=10):
    print "I am inside WHILE LOOP";
   print "This is a simple while loop";
   a+=1;
print "Executing Do While Style using While Loop"
while (1):
```

```
print "I am inside the DO WHILE LOOP";
   print "This is simple do while style construct";
    if (a==10):
       break;
    a+=1;
print "Out of all Loops"
print "Thats all FOLKS"
#! /usr/bin/python
#Demonstration of Functions
print "Executing first line in Body";
functioncall();
print "Back to main Body";
def functioncall():
   print "The call of the functioncall is executed";
   print "End of function";
   return;
#! /usr/bin/python
#Demonstration of Functions
def functioncall():
   print "The call of the functioncall is executed";
   print "End of function";
    return;
print "Executing first line in Body";
functioncall();
print "Back to main Body";
#! /usr/bin/python
#Demonstration of Functions
def functioncall (x, y):
   print "The call of the functioncall is executed";
   print "The values passed to function are d and d x, y;
   print "End of function";
    return;
print "Executing first line in Body";
functioncall(10,20);
```

```
print "Back to main Body";
#! /usr/bin/python
#Demonstration of Functions
def functioncall (x, y):
    print "The call of the functioncall is executed";
    print "The values passed to function are %d and %d" % (x,y);
    print "End of function";
    x = 100; y = 200;
    return;
x = 10; y = 20;
print "Executing first line in Body";
functioncall (x, y);
print "Back to main Body";
print "The value of the Variables after function call is %d and
%d" % (x,y);
#! /usr/bin/python
#Demonstration of Functions
def functioncall():
    print "The call of the functioncall is executed";
    print "The values in function are %d and %d" % (x,y);
    print "The Address of variables in function are
", id(x), id(y);
    \#x = 200; y = 100;
    print "End of function";
    return;
x = 10; y = 20;
print "Executing first line in Body";
print "The Address of variables in main are ",id(x),id(y);
print "The value in main block is %d and %d" % (x,y);
functioncall();
print "Back to main Body";
print "The value of the Variables is %d and %d" % (x,y);
#! /usr/bin/python
#Demonstration of Functions
def functioncall(x, y):
    print "The call of the functioncall is executed";
    print "The values passed to function are %d and %d" % (x,y);
```

```
print "End of function";
    x = 20; y = 10;
    return (x,y);
x = 10; y = 20;
print "Executing first line in Body";
(x,y) = functioncall(x,y);
print "Back to main Body";
print "The value of the Variables is %d and %d" % (x,y);
print type(x), type(y);
#! /usr/bin/python
#Demonstration of Functions
def functioncall (x=0, y=0):
    print "The call of the functioncall is executed";
    print "The values passed to function are d and d x, y;
    print "End of function";
    return (x+y, x-y);
print "Executing first line in Body";
(x,y) = functioncall();
print "The value of the Variables is %d and %d" % (x,y);
print "Back to main Body";
x=10; y= 20;
(x,y) = functioncall(x,y);
print "The value of the Variables is %d and %d" % (x,y);
x=10;
(x, y) = function call(x);
print "The value of the Variables is %d and %d" % (x,y);
#! /usr/bin/python
#Demonstration of Functions
def functioncall(*x):
    print "The type of variable x is ", type(x);
    print "The call of the functioncall is executed";
    for y in x:
        print y,;
    print "End of function";
print "Executing first line in Body";
functioncall();
functioncall(1);
functioncall (1, 2, 3, 4, 5);
functioncall("a", "b", "c", "d", "e");
functioncall(1, "a", 2, "b", 3, "c", 4, "d", 5, "e");
print "Back to main Body";
```

```
res=lambda x, y: x + y;
print "Executing the Main Block functions";
a=10;
b=20;
z = res(a,b);
print "The sum of two numbers %d, %d is %d" % (a,b,z);
a=1.2;
b=2.3;
z = res(a,b);
print "The sum of two numbers %f, %f is %f" % (a,b,z);
a='m';
b='n';
z = res(a,b);
print "The sum of two numbers %s, %s is %s" % (a,b,z);
#! /usr/bin/python
#Demonstration of Functions
def functioncall (x, y):
    print "The Address of the location in function x and y
are", id(x), id(y);
    print "The call of the functioncall is executed";
    print "The values passed to function are %d and %d" % (x,y);
    print "End of function";
    x = 20.0; y = 10.0;
    print "The Address of the location in function x and y
are", id(x), id(y);
   return;
x = 10; y = 20;
print "The Address of the location in main x and y
are", id(x), id(y);
print "Executing first line in Body";
functioncall (x, y);
print "Back to main Body";
print "The value of the Variables is %d and %d" % (x,y);
#! /usr/bin/python
x = 10; y = 20;
def functioncall(a,b):
    global x; global y;
    print "The call of the functioncall is executed";
    print "The values in function are %d and %d" % (a,b);
    print "The Address of variables in function are
",id(a),id(b);
    print "End of function";
    x = 20; y = 10;
```

```
return;
print "Executing first line in Body";
print "The Address of variables in main are ",id(x),id(y);
print "The value in main block is %d and %d" % (x,y);
functioncall (x, y);
print "Back to main Body";
print "The value of the Variables is %d and %d" % (x,y);
#! /usr/bin/python
#Demonstration of Functions
x = 10; y = 20;
def functioncall(a,b):
    print "The call of the functioncall is executed";
    print "The values in function are %d and %d" % (a,b);
    print "The Address of variables in function are
",id(a),id(b);
    print "End of function";
    return;
\#x = 10; y = 20;
print "Executing first line in Body";
print "The Address of variables in main are ",id(x),id(y);
print "The value in main block is %d and %d" % (x,y);
functioncall (x, y);
print "Back to main Body";
print "The value of the Variables is %d and %d" % (x,y);
#! /usr/bin/python
#Demonstration of Functions
def functioncall (x=0, y=0):
    print "The call of the functioncall is executed";
    print "The values passed to function are %d and %d" % (x,y);
    print "End of function";
    return (x+y,x-y);
print "Executing first line in Body";
(x,y) = functioncall(1,2);
print "The value of the Variables is ", (x,y);
print "Back to main Body";
x=1.5; y= 2.3;
(x,y) = functioncall(x,y);
print "The value of the Variables is " , (x,y);
#! /usr/bin/python
def functioncall(*x):
```

```
print "The call of the functioncall is executed";
    for y in x:
        print y,;
    print "End of function";
    return;
print "Executing first line in Body";
hashValue={'India':1000,'USA':2000,'Pakistan':3000,'Australia':4
000};
functioncall();
functioncall(1);
functioncall (1, 2, 3, 4, 5);
functioncall("a", "b", "c", "d", "e");
functioncall(1, "a", 2, "b", 3, "c", 4, "d", 5, "e");
functioncall(hashValue);
print "Back to main Body";
#! /usr/bin/python
import math;
#Demonstration of Built In Functions
print "The Absolute value is ", abs(-45);
print "The Floor Value of 123.678 is ", math.floor(123.678);
print "The Ceil Value of 123.678 is ", math.ceil(123.678);
print "The Comparison Value of 10,20 is ", cmp(10,20);
print "The Exponential Value of 2 is ", math.exp(2);
print "The Maximum of 10,20 is ", max(10,20);
print "The Minimum of 10,20 is ", min(10,20);
print "The Power Raised of 2 to 3 is ", pow(2,3);
print "The Square root of 2 is ", math.sqrt(2);
#! /usr/bin/python
# Demonstraion of Built In String functions
x = "welcome to Wipro Technologies";
print "The length of the given String is ", len(x);
print "The Capitalized String is ", x.capitalize();
print "The CAPITALIZED string is ", x.upper();
print "The lower case string is ", x.lower();
print "The Title Cased Style Of String Is ", x.title();
print "The Inverted Case of the String is ", x.swapcase();
print "We are trying to search Wipro ", x.find("Wipro");
print "We are tring to search Wipro between 16 to 20",
x.find("Wipro", 16, 25);
            Welcome to Wipro Technologies.
print "The Given String is ", x;
print "The Stripped String is ", x.strip(' ');
#! /usr/bin/python
```

```
import test;
print "This statement is executed from main program";
print "The module test contatins";
test.displayValues(1, "a");
test.displayValues (1,2,3,4,5,'a','b','c','d','e');
print "Back to main program";
#! /usr/bin/python
import test1;
print "This statement is executed from main program";
res = test1.sumValues(1,2);
print "The sum of 1,2 is ", res;
res = test1.multiplyValues(1,2);
print "The product of 1,2 is ", res;
print "Back to main program";
#! /usr/bin/python
#import package called wipro;
import wipro;
print "This statement is executed from main program";
wipro.displayValues(1, "a");
res = wipro.sumValues(1,2);
print "The sum of 1,2 is ", res ;
res = wipro.multiplyValues(1,2);
print "The product of 1,2 is ", res;
wipro.test2.calculate();
print "Back to main program";
def displayValues(*x):
    for y in x:
        print y;
print "End of the module";
def sumValues(*x):
    res=0;
    for y in x:
        res+=y;
    return res;
print "End of the module sumValues";
def multiplyValues(*x):
    res=1;
```

```
for y in x:
       res*=y;
    return res;
print "End of the module sumValues";
from test1 import *
from test2 import *
from test3 import *
def displayValues(*x):
    for y in x:
        print y;
def sumValues(*x):
   res=0;
   for y in x:
        res+=y;
    return res;
def calculate():
   print "Welcome to calculate of test2";
def multiplyValues(*x):
    res=0;
    for y in x:
        res+=y;
    return res;
def calculate():
   print "This is calculate function from test3";
    return:
#! /usr/bin/python
import sys,math
if(len(sys.argv) != 2) :
   print "Error: Syntax command <int argument>"
   print "Please provide 1 argument"
    sys.exit(2);
print "The lenght of the command line arguments is: ",
len(sys.argv);
print "The given values at command line is: ", sys.argv;
print "The first value in command line arguments is : ",
sys.argv[0];
print "The second value in command line arguments is: ",
sys.argv[1];
```

```
res = math.sqrt(float(sys.argv[1]));
print "Square root of the given number is ", res;
#! /usr/bin/python
x = 10;
y = 0;
print "The values stored are ", (x,y);
res = x / y;
print "The result of two divided numbers are ", res;
#! /usr/bin/python
x = input("Enter first number");
y = input("Eneter second number");
print "The values stored are ", (x,y);
res = x / y;
print "The result of two divided numbers are ", res;
#! /usr/bin/python
try:
    try:
        x = input("Enter first number");
        y = input("Enter second number");
        print "The values stored are ", (x,y);
        res = x / y;
        print "The result of two divided numbers are ", res;
    finally:
        print "I have executed:";
except ZeroDivisionError:
        print "You are trying to divide by zero"
except NameError, e:
    print "Error with the value given to program";
    print e;
#! /usr/bin/python
try:
    try:
        x = input("Enter first number");
        y = input("Enter second number");
```

```
print "The values stored are ", (x,y);
        res = x / y;
        print "The result of two divided numbers are ", res;
    finally:
        print "I have executed:";
except Exception:
      print "The default Exception is handled";
except ZeroDivisionError:
       print "You are trying to divide by zero"
except NameError, e:
   print "Error with the value given to program";
   print e;
#! /usr/bin/python
class wipro:
   def init (self):
       print "Constructor is executed"
      print self;
    def display(self):
       print "Display method is executed"
m = wipro();
n = wipro();
m.display();
n.display();
#! /usr/bin/python
class wipro:
    def init (self, x, y):
       self.a = x; self.b = y;
      print "Constructor is executed"
    def display(self):
      print "Display method is executed", self.a, self.b
m = wipro(1,2);
n = wipro(3,4);
m.display();
n.display();
#! /usr/bin/python
class wipro:
    res = 0;
    def init (self, x, y):
       self.a = x; self.b = y;
       print "Constructor is executed"
```

```
def calc(self):
      res = self.a + self.b;
       return res;
m = wipro(1,2);
n = wipro(3,4);
print "The result of two number of object m is ", m.calc();
print "The result of two number of object n is ", n.calc();
#! /usr/bin/python
class wipro:
    res = 0;
    def init (self, x, y):
       self.a = x; self.b = y;
       print "Constructor is executed"
    def calc(self):
       wipro.res = self.a + self.b;
    def display(self):
      print "The resultant value of res is", wipro.res
m = wipro(1,2);
n = wipro(3,4);
m.calc();
n.calc();
m.display();
n.display();
```