Notes Python

Bases

```
#!/usr/bin/python3

# output
print ("Hello, Python!")
print(x, end=" ")  # Appends a space instead of a newline in
Python 3

# input
x = input("something:")

# raise exception
raise IOError("file error") #this is the recommended syntax
in Python 3
```

```
# Quotation in Python
word = 'word'
sentence = "This is a sentence."
paragraph = """This is a paragraph. It is
made up of multiple lines and sentences."""
```

Variable Types

```
# Simple Assignment
counter = 100          # An integer assignment
miles   = 1000.0       # A floating point
value   = 3e+26J       # A complex
name    = "John"       # A string

# Multiple Assignment
a = b = c = 1
a, b, c = 1, 2, "john"
```

```
# deletion
a, b, c = 1, 2, "john"
```

```
str = 'Hello World!'

print (str)          # Prints complete string
print (str[0])       # Prints first character of the string
print (str[2:5])     # Prints characters starting from 3rd
to 5th
print (str[2:])      # Prints string starting from 3rd
character
print (str * 2)      # Prints string two times
print (str + "TEST") # Prints concatenated string
```

```
list = [ 'abcd', 786 , 2.23, 'john', 70.2 ]
tinylist = [123, 'john']

print (list)          # Prints complete list
print (list[0])       # Prints first element of the list
print (list[1:3])     # Prints elements starting from 2nd
till 3rd
print (list[2:])      # Prints elements starting from 3rd
element
print (tinylist * 2)  # Prints list two times
print (list + tinylist) # Prints concatenated lists
```

```
tuple = ( 'abcd', 786 , 2.23, 'john', 70.2  )
tinytuple = (123, 'john')

print (tuple)           # Prints complete tuple
print (tuple[0])        # Prints first element of the tuple
print (tuple[1:3])      # Prints elements starting from 2nd
till 3rd
print (tuple[2:])       # Prints elements starting from 3rd
element
print (tinytuple * 2)   # Prints tuple two times
print (tuple + tinytuple) # Prints concatenated tuple
```

```
dict = {}
dict['one'] = "This is one"
dict[2]     = "This is two"
```

```
tinydict = {'name': 'john','code':6734, 'dept': 'sales'}

print (dict['one'])       # Prints value for 'one' key
print (dict[2])           # Prints value for 2 key
print (tinydict)          # Prints complete dictionary
print (tinydict.keys())   # Prints all the keys
print (tinydict.values()) # Prints all the values
```

```
#Data Type Conversion

int(x [,base]) #Converts x to an integer. The base specifies
the base if x is a string.
float(x) # Converts x to a floating-point number.
complex(real [,imag]) # Creates a complex number.
str(x) # Converts object x to a string representation.
repr(x) # Converts object x to an expression string.
eval(str) # Evaluates a string and returns an object.
tuple(s) # Converts s to a tuple.
list(s) # Converts s to a list.
set(s) # Converts s to a set.
dict(d) # Creates a dictionary. d must be a sequence of
(key,value) tuples.
frozenset(s) # Converts s to a frozen set.
chr(x) # Converts an integer to a character.
unichr(x) # Converts an integer to a Unicode character.
ord(x) # Converts a single character to its integer value.
hex(x) # Converts an integer to a hexadecimal string.
oct(x) # Converts an integer to an octal string.
```

Basic Operators

Object Oriented

```

```

```
#!/usr/bin/python
```

```
class Employee:
   'Common base class for all employees'
   empCount = 0

   def __init__(self, name, salary):
      self.name = name
      self.salary = salary
      Employee.empCount += 1

   def displayCount(self):
     print "Total Employee %d" % Employee.empCount

   def displayEmployee(self):
      print "Name : ", self.name,  ", Salary: ", self.salary

"This would create first object of Employee class"
emp1 = Employee("Zara", 2000)
"This would create second object of Employee class"
emp2 = Employee("Manni", 5000)
emp1.displayEmployee()
emp2.displayEmployee()
print "Total Employee %d" % Employee.empCount

// Built-In Class Attributes

print "Employee.__doc__:", Employee.__doc__
print "Employee.__name__:", Employee.__name__
print "Employee.__module__:", Employee.__module__
print "Employee.__bases__:", Employee.__bases__
print "Employee.__dict__:", Employee.__dict__

// Destroying Objects (Garbage Collection)
del emp1

// Class Inheritance
#!/usr/bin/python

class Parent:        # define parent class
   parentAttr = 100
   def __init__(self):
      print "Calling parent constructor"
```

```
   def parentMethod(self):
      print 'Calling parent method'

   def setAttr(self, attr):
      Parent.parentAttr = attr

   def getAttr(self):
      print "Parent attribute :", Parent.parentAttr

class Child(Parent): # define child class
   def __init__(self):
      print "Calling child constructor"

   def childMethod(self):
      print 'Calling child method'

c = Child()          # instance of child
c.childMethod()      # child calls its method
c.parentMethod()     # calls parent's method
c.setAttr(200)       # again call parent's method
c.getAttr()          # again call parent's method


// Overriding Methods
#!/usr/bin/python

class Parent:        # define parent class
   def myMethod(self):
      print 'Calling parent method'

class Child(Parent): # define child class
   def myMethod(self):
      print 'Calling child method'

c = Child()          # instance of child
c.myMethod()         # child calls overridden method
```