**1)What is Python and why is it popular?**

Python is an interpreted and based object oriented language besides it is a freeware technology and platform independent hence It is mainly used in web application development, AI and ML.

**2)What are the differences between Python 2 and Python 3?**

* Python 2 stores strings by ASCII whereas Python 3 uses Unicode.
* Python 2 has a more complex syntax than Python 3.
* Many Python 2 libraries aren’t forward compatible but many libraries exclusively use Python 3.
* Iterations in python 2 are done with xrange() but Range() function is used in python 3.
* In python2 , we always get the value as integer while dividing but in Python 3, we get the float( with decimal value wherever it is possible) value.

**3)What is the difference between a tuple and a list in Python?**

Contents of Tuple cannot be changed once they have been created since it is immutable but contents can be changed in List even after creation.

**4)How do you create a dictionary in Python?**

Syntax

dictname = {

"key": "value",

"key1": "value1",

"key2": "value2"

}

**5)What is a function in Python and how do you define one?**

Functions in Python are used to do some operations and calculations and it can be accessed directly within the class or by object from another class.It can return a value.

syntax

def funcname(arguments):

Code logic is here

return expression;

**6)What is object-oriented programming (OOP) and how does it relate to Python?**

Abstraction,Encapsulation, Polymorphism and inheritance are major concepts in Object-oriented programming.

* It has a class and can inherit property and methods from the parent class.
* It supports the combination of data and behavior in a class but no private and protected attributes.
* It achieved polymorphism through multiple inheritance.

**7)How do you handle exceptions in Python?**

Using final and except keywords in try block, if any error is encountered in try block then control moves to Except block where we can get the error details. But finally block always gets executed even when errors occur or not.

**8)How do you read and write files in Python?**

**Read:**

fo = open("test.txt", "rb+")

fo.read()

fo.close()

**Write:**

fo = open("test.txt", "wb")

fo.write( "This is python")

fo.close()

**9)How do you install and use external packages in Python?**

Using Python package manager(pip), required packages can be installed to Python.

**10)How do you use the "if" statement in Python to perform conditional execution?**

a = 10 , b =5;

If(a==b):

c = a+b

elif(a == 0):

C = b;

elif(b==0):

c=a;

else:

c=0;