**Q1. What is the purpose of Python's OOP?**

OOP stands for Object Oriented Programming which focuses on creating reusable code. OOP is a programming paradigm which uses classes and objects instead of functions. It has several advantages over procedural programming approach such as

* It allows us to break the program into the bit sized problems that can be solved easily.
* Easily upgradable from small to large systems.
* Multiple instances of same class co-exist without interference.
* With inheritance we can use attributes and methods of another class without writing the code again.

**Q2. Where does an inheritance search look for an attribute?**

If a class is inheriting other class also then for attributes first it searches inside the original class then searches to inherited classes.

E.G. class A:

Pass

Class B(A):

Pass

Class D(B,A):

Pass

Here in the above example pointer will search for any attribute first in constructor of class D itself then in class B then in class A.

**Q3. How do you distinguish between a class object and an instance object?**

Class is the blueprint of user defined object have its own data and methods while instance object is a representation of the class with specific attribute values.

No memory is allocated when we create a class but when we instantiate (create object of class) object of the class memory is allocated.

**Q4. What makes the first argument in a class’s method function special?**

The first argument in a class method is a pointer which indicates that the particular function belongs to the class. Usually we use ‘self’ as pointer but we can use any name as pointer.

**Q5. What is the purpose of the \_\_init\_\_ method?**

\_\_init\_\_ is the constructor of the class which is responsible for taking arguments of the class. It is the constructor which decides how many positional and keyword arguments required for creating an object of the class.

**Q6. What is the process for creating a class instance?**

class Animal:

def \_\_init\_\_(self,name,color,c=None):

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A = Animal(‘tom’,’black’)

Here A is an instance of class Animal.

To create an instance of class Animal we need to give the required attribute of the class.

**Q7. What is the process for creating a class?**

We can create class with keyword ‘class’ and name of class. These two are the only mandatory field to create a class though without any constructor we unable to create any method of class i.e., it is an empty class.

If we want attributes and methods in class then after keyword and name of class we need to create constructor of the class

**Q8. How would you define the superclasses of a class?**

A superclass is the class from which many subclasses can be created. All attributes and methods of superclass inherited to subclasses along with subclass’s own attributes and methods.