Python Advanced Assignment 01 Solution

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

Ans: It is a programming paradigm that provides a means of structuring programs so that properties and behaviours are bundled into individual objects.

- In Python, object-oriented Programming (OOPs) uses objects and classes in a program.
- It aims to implement real-world entities like Vehicle, Bank and School etc as a class, in programming.
- The main concept of OOPs is to bind the data and the functions that work on that together as a single unit so that no other part of the code can access this data.
- It helps in easy maintenance and modifications of existing program.

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

Ans: Python searches for an attribute in an upward tree of attributes. it first search for the attribute in its instance and then looks in the class it is generated from, to all super classes listed in its class header

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

Ans: The differences between a class object and an instance object are:

1. Class is a template for creating objects whereas object is an instance of class
2. Separate memory is allocated for each object whenever an object is created. but for a class memory is not allocated and thus it acts as a blueprint for the object. As Classes have no allocated memory. they can't be manipulated. but objects can be manipulated.
3. Once a class is created then any number of objects can be created of that class.

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

Ans: the first argument that any member function (function of the class) takes is the pointer actually which tells the address of the object and is different for each object. Therefore, if a class has 3 instance variables then for objects 1 and 2 there will be different set of these variables and a total of 6 variables will be there, to access any object’s instance variable first argument of any function is useful because it shows the function for which object the function has been called.

Q5. What is the purpose of the __init__ method?

Ans: __init__ method is a function which is called automatically as the object is created. Therefore it can be useful to take input of general variables that will be used for member functions of the class.

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

Ans: To create a class instance, we need to call the class by its name and pass the arguments to the class, which its **init** method accepts.

Q7. What is the process for creating a class?

Ans: Syntax of making a class is shown below

```
class Nam_of_class:
        def __init__():
                pass
        def function():
                pass
```

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

Ans: The superclass(A) of a class(B) is the class that shares its functions and variables with the child class or subclass, that is if A is superclass of B then Class B will have access to member functions of class A.