1. **What are the three things a programmer needs to know before using/creating classes and objects?**

Polymorphism, inheritance, and encapsulation are all concepts that a programmer should be familiar with. Encapsulation enables the encapsulation of data and methods, allowing values to be hidden from unauthorized parties. On the other hand, polymorphism permits an operator or function to take on several forms. Inheritance allows you to reuse previously written code.

1. **What method is used to test if two objects contain the same value(s)?  How is it implemented by the programmer?**

You should include a \_\_eq\_\_ function in a new class. This method allows equality tests against any object, including the \_\_eq\_\_ method in any type that applies a criterion other than object identity in the equality comparison. When comparing items using less than or greater than, you also provide comparison techniques for <and> =.

1. **Describe the three concepts associated with classes:**

* Data Encapsulation: In a single object, encapsulation refers to the encapsulation of data and the restriction of methods that access that data. You can hide the internal state of the item from the outside by doing so. Information hiding is the term for this.
* Inheritance: Inheritance lets you create a class that inherits all of another class's methods and attributes.
* The inherited class, sometimes called the base class, is the parent.
* A derived class is a class that inherits from another class.
* Polymorphism (Differentiate between inheritance and polymorphism: Polymorphism is a fundamental idea in programming that manifests itself in various ways. It refers to representing multiple types in different scenarios using the same type of entity (method, operator, or object).
* Inheritance:
* Inheritance is creating a new class inheriting the properties/ functionalities of an already existing class.
* You may reuse code by utilizing direct inheritance to inherit class attributes, functions, and methods. It also aids in code reduction by preventing the development of superfluous repeating lines of code, which can be inherited in a subclass.
* Polymorphism:
* The way in which a single task can be performed in multiple ways by the user.
* Provisions allow objects to decide what type of function should be executed at compile and run times.