27 Lecture - CS201

Important Subjective

1. **What is the difference between a class and an object in object-oriented programming?**
   Answer: A class is a blueprint or template that defines the attributes and behaviors of objects, while an object is an instance of a class.

2. **What is the purpose of encapsulation in object-oriented programming?**
   Answer: The purpose of encapsulation is to hide the internal details of an object from the outside world and provide a well-defined interface for interacting with the object.

3. **What is inheritance in object-oriented programming?**
   Answer: Inheritance is the ability of a new class to be created from an existing class, inheriting its attributes and methods.

4. **What is polymorphism in object-oriented programming?**
   Answer: Polymorphism is the ability of objects of different classes to be treated as if they were of the same class, allowing for more flexible and dynamic code.

5. **What is a constructor in object-oriented programming?**
   Answer: A constructor is a special method that is used to initialize objects when they are created.

6. **What is the difference between a public and private attribute in a class?**
   Answer: A public attribute can be accessed and modified by any code that interacts with the object, while a private attribute can only be accessed and modified by methods within the class.

7. **What is a method in object-oriented programming?**
   Answer: A method is a function that is associated with a class or object and defines its behavior.

8. **What is the purpose of the "self" keyword in Python classes?**
   Answer: The "self" keyword is used to refer to the object that the method is being called on, allowing the method to access and modify the object's attributes.

9. **How does inheritance promote code reuse in object-oriented programming?**
   Answer: Inheritance allows new classes to be created that inherit the attributes and methods of an existing class, reducing the need to write redundant code.

10. **What are some advantages of using classes and objects in programming?**
    Answer: Advantages of using classes and objects include encapsulation of data and functionality, code reuse through inheritance and polymorphism, and the ability to create more modular and flexible code.