File I/O Operations

1. How can you read the entire content of a file using Python? Write a code snippet to demonstrate this.
2. Write a program to create a new text file and write three lines of content to it. Then, read the file and print its content.
3. Explain the difference between read() and readlines() methods in file handling.
4. Using the os module, write a program to check if a specific file exists. If it does, rename it to a new name.
5. What is the advantage of using the with statement for file operations in Python? Demonstrate it with an example.

Dictionaries and Classes

1. Given a dictionary {'Name': 'John', 'Age': 25, 'City': 'New York'}, write a program to:
   - Add a new key-value pair for the profession.
   - Update the age.
   - Delete the city key.
2. Define a Student class with attributes for Name, Age, and Marks. Create an instance and print these attributes.
3. Write a constructor in a class that accepts Name, Age, and City as parameters. Create multiple objects using this class.
4. Explain encapsulation with an example in Python using the concept of private attributes.

Inheritance

1. Define a Person class with attributes Name and Age. Create a subclass Student that adds an attribute for Marks. Demonstrate inheritance by printing attributes from both the parent and child classes.

Polymorphism

1. Define two classes, Dog and Cat, each with a method makeSound() that prints "Bark" and "Meow", respectively. Demonstrate polymorphism by calling makeSound() on objects of both classes.