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Topic: oop's in python

Introduction

Welcome to *Object-Oriented Programming in Python* by **Puttur Lokesh**. This presentation will provide an overview of OOP concepts and their implementation in Python.

OOP Fundamentals

Understanding **object-oriented programming** is essential for building complex software systems. OOP emphasizes *reusability*, *modularity*, and *extensibility*.

Classes and Objects

In Python, **classes** are used to define blueprints for creating *objects*. Each object is an instance of a class, encapsulating data and behavior.

Inheritance and Polymorphism

Inheritance allows a class to inherit attributes and methods from another class, promoting code reuse. *Polymorphism* enables objects to be treated as instances of their parent class.

Encapsulation and Abstraction

Encapsulation restricts access to certain components, protecting the integrity of the object. *Abstraction* focuses on hiding the complex implementation details and exposing only the necessary features.

Python's OOP Features

Python supports OOP features such as *inheritance*, *polymorphism*, *encapsulation*, and *abstraction*. These features enable developers to write clean, efficient, and maintainable code.

Best Practices in OOP

Adhering to **best practices** such as following the *Single Responsibility Principle* and *Design Patterns* can enhance the quality and scalability of OOP code.

Conclusion

In conclusion, *Object-Oriented Programming in Python* offers a powerful paradigm for building robust and flexible software systems. Embracing OOP principles can lead to more maintainable and scalable codebases.