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**REVISION OF BASIC OOP-CONCEPTS**

1. Object-Oriented Programming (OOP) is a programming paradigm that organizes software design around data, or objects, rather than functions and logic. In OOP, programs are structured into reusable code blueprints called classes, which are used to create individual instances of objects
2. Python is considered an object-oriented programming language because it supports object-oriented programming (OOP) through the use of objects and classes.Python allows for the creation of classes, instances of those classes (objects), and the implementation of concepts like inheritance, polymorphism, encapsulation, and data abstraction within the programming paradigm.
3. The four principles of Object-Oriented Programming (OOP) are:

* Encapsulation: Encapsulation involves hiding the internal representation of an object from the outside world, restricting access to its attributes and behaviors. This allows for data protection and implementation protection, which can reduce system complexity
* Abstraction: Abstraction is the process of simplifying complex systems by focusing on essential characteristics and ignoring non-essential details. It involves defining interfaces and functionality without revealing implementation details, enabling developers to focus on the essential aspects of the system
* Inheritance: Inheritance is the mechanism of reusing code from existing objects or establishing a subtype from an existing object. It allows for the creation of derived classes that can inherit attributes and behaviors from a superclass, promoting code reuse and modularity
* Polymorphism: Polymorphism is the ability of an object to take on multiple forms or behaviors. It can manifest as method overloading or method overriding, allowing objects of different classes to be treated as if they were of the same class, enhancing code flexibility and extensibility

1. A library management system is a software application designed to automate and streamline the operations of a library. It helps in managing library resources efficiently, including books, journals, digital content, and other materials. Key features of a library management system typically include cataloging, inventory management, user management, circulation management, and reporting.
2. Additional features that the library management system could include:

* **Reservation and Hold Requests:** Allow users to reserve or place holds on books that are currently checked out by others. When the reserved book becomes available, the system notifies the user, ensuring equitable access to popular items.
* **Fine and Fee Management:** Implement a system for tracking fines and fees for overdue items or lost/damaged materials. The system can automatically calculate fines based on predefined rules and handle payment transactions.
* **Search and Discovery**: Enhance the search functionality to allow users to search for library materials based on various criteria such as title, author, subject, or ISBN. Provide advanced search options and filters to help users find relevant items quickly.
* **Integration with Online Resources:** Integrate with online databases, digital repositories, or e-book platforms to provide access to electronic resources alongside physical materials. This feature expands the library's collection and enhances its offerings to users.