

# Programming Language for Business Analytics

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## Project Report

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# Project Report: **Accounting Management System**

## Introduction:

This project is a Python-based accounting management system designed to manage accounts, record transactions, and generate financial reports. The system employs object-oriented programming (OOP) principles, with a focus on using accessor and mutator methods to control access to class attributes. The project aims to provide a practical application of fundamental OOP concepts while ensuring efficient handling of accounting operations.

## Imported Libraries:

The following libraries have been imported to support the functionalities of the accounting management system:

1. Streamlit
2. Matplotlib.pyplot

## Key Concepts Used:

- Encapsulation
- Abstraction
- Inheritance
- Polymorphism

## Project Files:

1. **account\_management.py**: Contains the classes and methods for managing accounts and transactions.
2. **reporting.py**: Contains the methods for generating various financial reports.
3. **interface.py**: The main file that uses Streamlit to create a simple text-based user interface for interacting with the system.

## Brief Description:

The accounting management system project integrates various Python programming concepts to create a comprehensive and user-friendly interface. The project includes three main components: account management, transaction management, and financial reporting.

- **Account Management:** The Account class manages the details of accounts, including adding, updating, and checking account balances.
- **Transaction Management:** The Transaction class handles recording transactions and updating account balances.
- **Reporting:** The Reporting class generates various financial reports, such as account balance reports, transaction history reports, and financial summary reports.

The system extensively uses OOP principles. Encapsulation is achieved by using accessor and mutator methods to control access to class attributes. Inheritance and polymorphism are used to extend and override methods where necessary.

## Accounting Management System - Class Diagram

