I am writing a Personal Finance Tool that will help people in three ways: First it will have a method to track transactions, both income and expenses, and will be able to show the user where they spend their money. Second, it will create a budget based on a combination of percentages suggested by financial experts and the fixed expenses (such as mortgage, phone bill ect.) that the user inputs along with a way for the user to manually adjust the budget as needed. Finally, it will track the users’ debts and help them set up a debt payment plan beginning with the highest interest rate first.

This program will show abstraction by having the different classes responsible for different parts of the code. As an example, a spending tracker class will keep track of transactions while the budget class will store and alter the recommended budget for the user. It will show encapsulation by keeping the attributes of the classes private so that I can better track what controls the various aspects. Finally it will show both inheritance and polymorphism in the transaction class which will be the base class for expenses and income. Each will need to inherit a getAmount function, but the income will need to return a positive amount and the expense class will need to return a negative one.