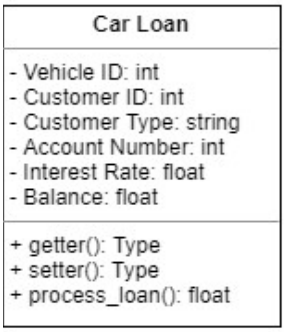
Project 1 Proposal

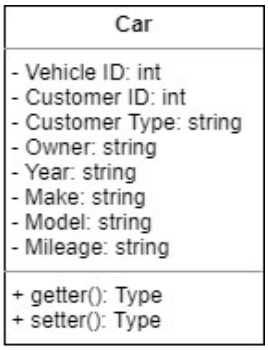
“Python Car Loan Program” By Victor Ramirez, 2021

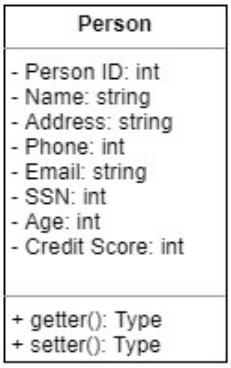
Abstract

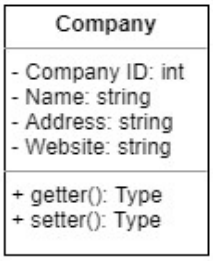
The python car loan calculator will be a terminal OOP python-based program. The program will make use of the 6 OOP classes in the attached diagram. The program will gather the user input and calculate / process the car loan application. The program will calculate the car loan and display the amortized loan schedule. The complexity of the class / objecting be used to render a decision and providing a data centric output will fulfill the project assignment requirements.

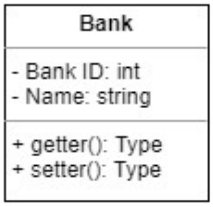
Classes:

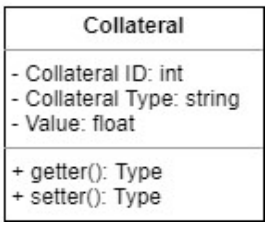












1. Car Loan
    a. Will encapsulate all the required car loan private data members. Will also include getter and setter methods.
2. Car
    a. Will encapsulate all the required car private data members. Will also include getter and setter methods.
3. Bank
    a. Will encapsulate all the required bank that is processing and approving the car loan, private data members. Will also include getter and setter methods. This class will also include a process / calculate method that will have a person and car input and output the loan details.
4. Person i.e., Owner
    a. The car owner can be a person, this class will encapsulate all the required person / client private data members. Will also include getter and setter methods.
5. Company i.e., Owner
    a. The car owner can be a company, this class will encapsulate all the required car loan private data members. Will also include getter and setter methods.
6. Collateral
    a. The car loan process can and may require a type of collateral to approve the loan. This class will encapsulate all the required car loan private data members. Will also include getter and setter methods.

Sample Program Output:

Year	Loan Balance	Total Annual Payments	Interest	Principal	Ending Balance
1.0	10,000.00$	2,438.91$	700.00$	1,738.91$	8,261.09$
2.0	8,261.09$	2,438.91$	578.28$	1,860.63$	6,400.46$
3.0	6,400.46$	2,438.91$	448.03$	1,990.87$	4,409.59$
4.0	4,409.59$	2,438.91$	308.67$	2,130.24$	2,279.35$
5.0	2,279.35$	2,438.91$	159.55$	2,279.35$	(0.00)$

Enhancements:

Depending on the persons credit worthiness the program will approve or deny the loan.

Tentative Proposal Timeline

October 12:

- Complete and submit project proposal for approval.
- Submit initial project files to GitHub version control.

October 13 – October 17 (Official coding period starts):

- Begin by designing all the required data structures.
- Stubbing out all the program classes.
- Design program functionality.
- Design output.

October 18 – October 22 (Code Complete):

- Freeze the code base of any new features.
- Bug fixing.

October 22 – October 26, 2021 (Testing):

- Final testing of program.

October 27, 2021 (Live Program Presentation):

- Present program during live class session.