ROBOTICS – Python Development – Lab 8 - Homework

1. Considering the following class specifications:

- **Account** - an abstract class which models a customer account. It should have the identifier and balance attributes along with deposit, withdraw and current_balance methods (at least deposit and withdraw should be abstract methods);
- **StandardAccount** - provides standard implementation to the deposit and withdraw methods (they just add or remove the specified amount to or from the account's balance). Withdrawals that lead to a negative amount are not allowed;
- **OverdraftAccount** - provides implementation to the deposit and withdraw methods. The class has two additional parameters: negative_balance_limit representing the limit of negative balance withdrawals and overdraft_penalty which is a percentage value. In case of withdrawals, when negative balance withdrawals are happening, the overdraft_penalty is applied on top of the negative balance generated. The withdrawal, including the penalty applied, cannot go bellow the negative_balance_limit value.

Please perform the following:

- Implement the classes described by this specification, prioritizing the good usage of inheritance and polymorhism;
- Implement a functional flow to demonstrate the polymorphic functionality for withdraw method in case of StandardAccount and OverdraftAccount.