

Classes, Libraries, and Modules Worksheet

Take the following items, and list some of the “has-a” relationships, and the “is-a” relationships.

- Checking account
- Person
- Mortgage account
- Customer
- Withdraw
- Bank Account
- SSN
- Transaction
- Address
- Deposit

_____ has a _____

_____ has a _____

_____ has a _____

_____ has a _____

_____ has a _____

_____ is a _____

_____ is a _____

_____ is a _____

_____ is a _____

_____ is a _____

In Python, how is an “is-a” relationship implemented? Give an example.

In Python, how is a “has-a” relationship implemented? How does this change if an object is allowed more than one item of a given type? Give examples.

What is a Python library?

What are some of the reasons why a programmer would want to create his/her own library file?

There are two ways to import library files in Python.

- Give an example of each.
- How do calls to functions and classes differ depending on how the library is imported?

Can library files import other library files?

First, try to write the code on paper. Then type it in.

Create a `Monster()` class with attributes for type and hit points. Create a `print()` method that prints what type of monster it is, and how many hit points it has.

Create child classes `Orc()` and `Goblin()`. Create an `__init__` that sets the value for type to "Orc" or "Goblin". Also, set the hit points to random number between 5-10 for a Goblin, and 15-30 for an Orc.

Create a list of monsters and add a few orcs and goblins to the list. Then call the `print()` method for each item in the list.