# Ex 42: Is-A, Has-A, Objects, and Classes

## Animal is-a object

class Animal(object):

pass

## Dog is-a Animal

class Dog(Animal):

def \_\_init\_\_(self, name):

## Person ha-a name

self.name = name

## cat is-a Animal

class Cat(Animal):

def \_\_init\_\_(self, name):

## ??

self.name = name

## ??

class Person(object):

def \_\_init\_\_(self, name):

## ??

self.name = name

## Person has-a pet of some kind

self.pet = None

## Employee is-a person

class Employee(Person):

def \_\_init\_\_(self, name, salary):

## ?? hmm what is this strange magic?

super(Employee, self).\_\_init\_\_(name)

## Person has-a monthly salary

self.salary = salary

## ??

class Fish(object):

pass

## Salmon is-a type of Fish

class Salmon(Fish):

pass

## Halibut is-a type of Fish

class Halibut(Fish):

pass

## rover is-a Dog

rover = Dog("Rover")

## satan has features of a cat

satan = Cat("Satan")

## mary is-a Person

mary = Person("Mary")

## mary has-a pet

mary.pet = satan

## frank is an Employee

frank = Employee("Frank", 120000)

## frans's pet is-a rover

frank.pet = rover

## flipper is-a type of fish

flipper = Fish()

## crouse menu has Salmon

crouse = Salmon()

## harry has Salmon for dinner

harry = Halibut()