M2 - W3 Assignment: Introduction to OOP

* **Exercise 1:**
  + 1. Define a Book class with the following attributes: Title, Author (Full name), Price.
  + 2. Define a constructor used to initialize the attributes of the method with values entered by the user.
  + 3. Set the View() method to display information for the current book.
  + 4. Write a program to testing the Book class.

* **Exercise 2**:
  + Write a class of “Person”, which is the parent class of Lecturer and Student. The Student and Lectures classes inherit from the Person class. In this class, the instance attributes should be number of legs, which should be initialised 2 and a boolean variable - is\_alive, that should be initialised as True.
  + Write a class 'Student' which stores information about a student. The class must have the following instance attributes controlled by the user: Name, Grade, Number.
  + Write a class which stores information about a “Lecturer”. The class must have the following instance attributes, also controlled by the user: Name, Number*In Step 2 and Step 3, both object should inherit the instance attributes from the Person object.*

class Person:

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

self.name = name

self.number\_of\_legs = 2

self.is\_alive = True

class Student(Person):

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

super().\_\_init\_\_(name)

self.grade = grade

self.number = number

class Lecturer(Person):

def \_\_init\_\_(self, name, number\_in\_step):

super().\_\_init\_\_(name)

self.number\_in\_step = number\_in\_step

# Example Usage:

# Creating a Person object

person = Person("John Doe")

print(f"{person.name} has {person.number\_of\_legs} legs and is alive: {person.is\_alive}")

# Creating a Student object

student = Student("Alice Smith", "A", 12345)

print(f"{student.name} is a student with grade {student.grade} and student number {student.number}")

# Creating a Lecturer object

lecturer = Lecturer("Dr. Brown", 98765)

print(f"{lecturer.name} is a lecturer with number in step {lecturer.number\_in\_step}")

As always, every object in Python should have the appropriate typing annotations and dock strings (in both exercises)