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| Task | 5 |
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**Question 1**

Create a Python program to model a library system: 1. Implement a parent class called Item with attributes title and author, and a method display\_info to display the title and author of the item. 2. Then create two child classes Book and Magazine inheriting from Item, each with an additional attribute (pages for Book and issue\_number for Magazine) and a method additional\_info to display the additional attributes

**Solution**

class Item:

    def \_\_init\_\_(self, title, author):

*self*.title = title

*self*.author = author

    def display\_details(self):

        print(f"Title: {*self*.title}\nAuthor: {*self*.author}")

class Book(Item):

    def \_\_init\_\_(self, title, author, pages):

        super().\_\_init\_\_(title, author)

*self*.pages = pages

    def additional\_info(self):

        print(f"Pages: {*self*.pages}")

class Magazine(Item):

    def \_\_init\_\_(self, title, author, issue\_number):

        super().\_\_init\_\_(title, author)

*self*.issue\_number = issue\_number

    def additional\_info(self):

        print(f"Issue Number: {*self*.issue\_number}")

book = Book("OPP Lab", "Syed Ali", 150)

magazine = Magazine("OPP Theory", "Mustafa", 200)

print("Book Information:")

book.display\_details()

book.additional\_info()

print("\nMagazine Information:")

magazine.display\_details()

magazine.additional\_info()