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Encapsulation / Abstraction

**Create a class Author with the following information. Member variables name (String), email (String), and gender (char) Parameterized Constructor: To initialize the variables Create a class Book with the following information. Member variables name (String), author (of the class Author you have just created), price (double), and qtyInStock (int) Assumption: Each book will be written by exactly one Author] Parameterized Constructor: To initialize the variables Getters and Setters for all the member variables In the main method, create a book object and print all details of the book (including the author details)**

class Author {

// Member variables private String name; private String email; private char gender;

// Parameterized constructor

public Author(String name, String email, char gender) { this.name = name;

this.email = email; this.gender = gender;

}

// Getters and setters public String getName() {

return name;

}

public void setName(String name) { this.name = name;

}

public String getEmail() { return email;

}

public void setEmail(String email) { this.email = email;

}

public char getGender() { return gender;

}

public void setGender(char gender) { this.gender = gender;

}

// toString method for displaying author details @Override

public String toString() {

return "Author[name=" + name + ", email=" + email + ", gender=" + gender + "]";

}

}

class Book {

// Member variables private String name;

private Author author; // Composition private double price;

private int qtyInStock;

// Parameterized constructor

public Book(String name, Author author, double price, int qtyInStock) { this.name = name;

this.author = author; this.price = price;

this.qtyInStock = qtyInStock;

}

// Getters and setters public String getName() {

return name;

}

public void setName(String name) { this.name = name;

}

public Author getAuthor() { return author;

}

public void setAuthor(Author author) { this.author = author;

}

public double getPrice() { return price;

}

public void setPrice(double price) { this.price = price;

}

public int getQtyInStock() { return qtyInStock;

}

public void setQtyInStock(int qtyInStock) { this.qtyInStock = qtyInStock;

}

// toString method for displaying book details @Override

public String toString() {

return "Book[name=" + name + ", " + author + ", price=" + price + ", qtyInStock=" + qtyInStock

+ "]";

}

}

public class Main {

public static void main(String[] args) {

// Create an Author object

Author author = new Author("J.K. Rowling", ["jkrowling@example.com](mailto:jkrowling@example.com)", 'F');

// Create a Book object

Book book = new Book("Harry Potter", author, 799.99, 50);

// Print book details (includes author details) System.out.println(book);

}

}

**Output:**

Book[name=Harry Potter, Author[name=J.K. Rowling, [email=jkrowling@example.com,](mailto:email%3Djkrowling@example.com) gender=F], price=799.99, qtyInStock=50]