

ריבוי צורות-Polymorphism

1. Write a simple class – Book with the following fields/attributes:

- id : int
- name : String
- price : double
- add a constructor that takes and populates all fields
- implement getters/setters
- override equals(Object o) to return true only if compared with other Book instance that has the same values in all fields
- override toString() to return a string representation as follows: Book: <name>-<price>

2. Extend Book with a new class named – BestSeller with the following additional fields:

- summary : String
- worldCopies : int
- complete getters/setters and constructor as needed
- update equals(Object o) to return true only if compared with other Book instance that has the same values in all fields
- update toString() to return a string representation as follows: Best Seller: - Summary: , Copies Sold !

3. Create a Storage class. This class holds two arrays which are in synch:

- books : Book[]
- inStock : int[]

books holds all Books in stock, while inStock holds the amount of each. For examples: if the library has 5 copies of "The Code Book" and it is the first book added to the stock, books[0] will hold the Book instance of "The Code Book" and inStock[0] will hold the value 5.

Add the following methods :

- constructor that instantiates the arrays with initial size of 6
- `addBook(Book newBook, int amount)` – adds a books to the books array and adds the amount to `inStock`. Use `System.arraycopy()` when needed
- `rentBook(Book book) : String` - reduces `inStock` array and returns book name as approval or null if no books in stock (`in stock = 0`)
- `returnBook(Book book)` – updates book in stock value
- `getInStock(Book book) : int` – returns the current amount of the given book in stock

4. Write A `LibraryCase` class with main method that uses the previous classes to do the following:

- Create a `Stock` object
- Populate it with 3 `Books` objects and 3 Best Sellers
- Print the details of Best Sellers only
- Print for each book – its name and amount in stock
- Rent 1 regular book
- Rent 1 best seller
- Print current stock details again
- Return regular book
- Print current stock for the last tim