

## Book Shop(---RETIRED---)

**Grade settings:** Maximum grade: 100

**Disable external file upload, paste and drop external content:** Yes

**Based on:** [Book Shop](#)

**Run:** Yes **Evaluate:** Yes

**Automatic grade:** Yes

Paul runs a bookshop on the main street. He wants to sell most of the books in his shop, so he plans to give a discount based on the published year. As a software developer help Paul to calculate the book cost.

### Component Specification: Book

Type(Class)	Attributes	Methods
<b>Book</b>	String bookName  String authorName  int publishedYear  double cost	Necessary getters, setters and constructors are provided as part of the code skeleton.

**Functional Requirement 1: Extract the details of the Book and create an object of the Book class.**

Type(Class)	Methods	Responsibilities
<b>UserInterface</b>	public static Book <b>extractDetails</b> (String bookDetails)	This method accepts <b>bookDetails</b> separated by colon as an argument and should extract the properties of the <b>Book</b> from the argument by parsing the <b>bookDetails</b> . Set these values to the <b>Book</b> object and return this object

**Functional Requirement 2: Calculate the book cost based on the published year.**

Type(Class)	Methods	Responsibilities
<b>Book</b>	public double <b>calculateBookCost()</b>	<p>This method is used to calculate the book cost based on the published year.</p> <p>If the publishedYear is between <b>1900 and 1940</b> (both inclusive), discount is 25% of the cost.</p> <p>If the publishedYear is between <b>1941 and 1980</b> (both inclusive), discount is 35% of the cost.</p> <p>If the publishedYear is between <b>1981 and 2020</b> (both inclusive), discount is 15% of the cost.</p> <p><b>Condition:</b></p> <ul style="list-style-type: none"> <li>• The <b>publishedYear</b> should be between 1900 to 2020, else return 0.</li> <li>• The <b>cost</b> should be greater than 0, else return 0.</li> </ul>

Formula to calculate book cost:

**Book Cost = cost - discount**

**Example:**

Enter the Book details

**The Rainbow:Lawrance:1915:600** (If the publishedYear is between, 1900 to 1940, discount is 25% of the cost.)

Book Cost = 600 - (600\*25)/100

Book Cost = 450.0 (Roundoff the result to one decimal place)

**The main method in the `UserInterface` class is excluded from evaluation. You are free to write your own code in the main method to invoke the business methods to check its correctness.**

**Note:**

- Roundoff the result to one decimal place.
- In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user and the rest of the text represents the output.
- Ensure to follow the object-oriented specifications provided in the question.
- Ensure to provide the names for classes, attributes, and methods as specified in the question.
- Adhere to the code template, if provided.

**Sample Input / Output 1:**

Enter the Book details

**Invisible Man:Ralph Ellison:1952:500**

Book Details

Book Name : Invisible Man

Author Name : Ralph Ellison

Published Year : 1952

Book Cost : 325.0

**Sample Input / Output 2:**

Enter the Book details

**Lolita:Nabakov:1970:-200**

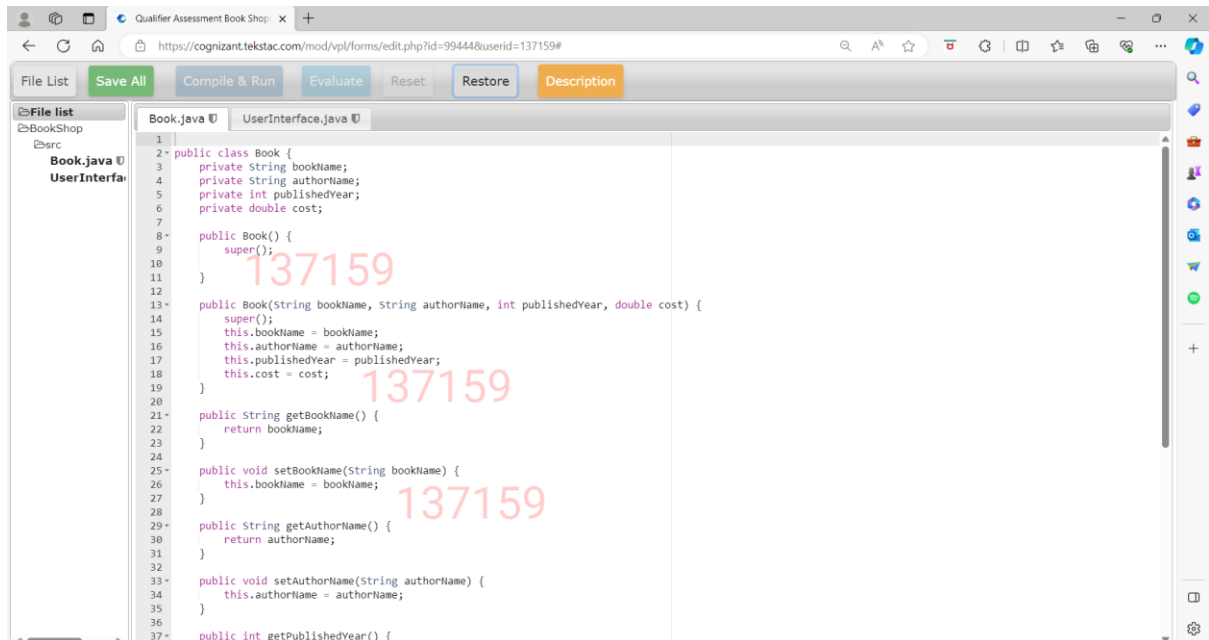
Invalid book details

### Sample Input / Output 3:

Enter the Book details

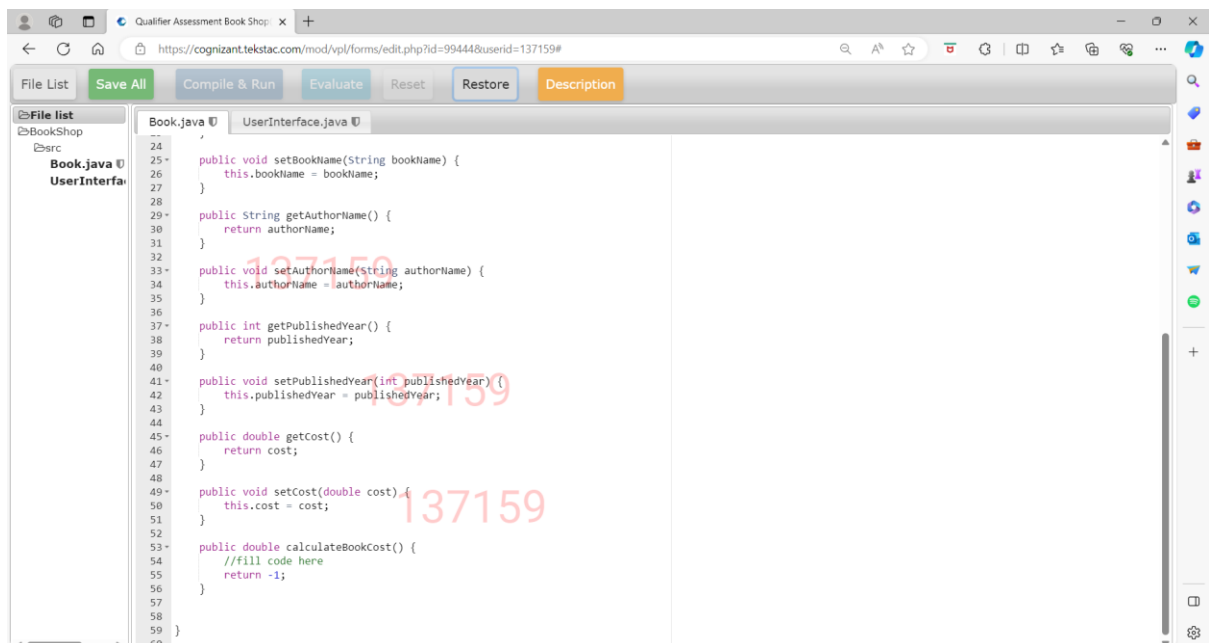
**The Shining:Stephen:1870:600**

Invalid book details



The screenshot shows an IDE window titled "Qualifier Assessment Book Shop" with a URL of <https://cognizant.tekstac.com/mod/vpl/forms/edit.php?id=99444&userid=137159#>. The interface includes a "File List" on the left, a "Save All" button, and tabs for "Compile & Run", "Evaluate", "Reset", "Restore", and "Description". The "Book.java" file is open, displaying the following Java code:

```
1 public class Book {
2     private String bookName;
3     private String authorName;
4     private int publishedYear;
5     private double cost;
6
7     public Book() {
8         super();
9     }
10
11     public Book(String bookName, String authorName, int publishedYear, double cost) {
12         super();
13         this.bookName = bookName;
14         this.authorName = authorName;
15         this.publishedYear = publishedYear;
16         this.cost = cost;
17     }
18
19     public String getBookName() {
20         return bookName;
21     }
22
23     public void setBookName(String bookName) {
24         this.bookName = bookName;
25     }
26
27     public String getAuthorName() {
28         return authorName;
29     }
30
31     public void setAuthorName(String authorName) {
32         this.authorName = authorName;
33     }
34
35     public int getPublishedYear() {
```



The screenshot shows the same IDE window as above, but the "Book.java" file is now displaying the following Java code:

```
24
25     public void setBookName(String bookName) {
26         this.bookName = bookName;
27     }
28
29     public String getAuthorName() {
30         return authorName;
31     }
32
33     public void setAuthorName(String authorName) {
34         this.authorName = authorName;
35     }
36
37     public int getPublishedYear() {
38         return publishedYear;
39     }
40
41     public void setPublishedYear(int publishedYear) {
42         this.publishedYear = publishedYear;
43     }
44
45     public double getCost() {
46         return cost;
47     }
48
49     public void setCost(double cost) {
50         this.cost = cost;
51     }
52
53     public double calculateBookCost() {
54         //fill code here
55         return -1;
56     }
57
58
59 }
60
```

