✔ **Done:** Make a submission

Opened: Thursday, 7 March 2024, 12:05 AM
Due: Thursday, 14 March 2024, 11:55 PM

Assignment Title: Generic Library Catalog

This assignment assesses your ability to apply generic classes and methods to create a versatile library catalog that can handle different types of items. It evaluates your understanding of generic concepts in the context of a real-world application.

Assignment Instructions

Scenario: Consider you have been asked to develop a generic library catalog in Java that can store and manage different types of library items.

You are tasked with utilizing generic classes and methods to ensure flexibility and code reusability.

Requirements:

1. **Generic Catalog Class:**

    a. Implement a generic catalog class that can store information about library items (e.g., books, DVDs, magazines).
    b. Ensure that the catalog works seamlessly with different types of items by using generics.

2. **Library Item Class:**

    a. Create a generic **LibraryItem** class with attributes such as **title**, **author**, and **itemID**
    b. Ensure that the **LibraryItem** class is compatible with the generic catalog.

3. **Library Operations:**

    a. Develop methods within the generic catalog to add a new library item, remove an item, and retrieve item details.
    b. Implement error handling to manage scenarios such as attempting to remove a non-existent item.

4. **User Interface:**

    a. Create a simple command-line interface for users to interact with the library catalog.
    b. Allow users to add a new library item, remove an item, and view the current catalog.

5. **Testing:**

    a. Implement comprehensive testing for your generic catalog and **LibraryItem** class.
    b. Test scenarios should include adding and removing items, ensuring the catalog works with various types of library items.

Guidelines

- Utilize generic classes and methods to create a flexible and reusable library catalog.
- Focus on code modularity and reusability by using generics effectively.
- Implement exception handling to manage unexpected scenarios gracefully.
- Provide clear and concise comments and documentation for your code.

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Deliverables

1. Java Program Source Code:

- Submit a well documented source code.
- Implement generic classes and methods for creating generic library catalog.

2. Output Screenshot:

- Provide a screenshot of the program's output.

Grading Criteria

Your assignment will be evaluated based on the following criteria:

1. Implementation of Generic Class: Implement a generic catalog class that can store information about library items. Ensure seamless compatibility with different types of items using generics.
2. Implementation of Generic Methods: Create a generic **LibraryItem** class with attributes such as **title**, **author**, and **itemID**. Ensure compatibility with the generic catalog.
3. Library operations: Develop methods in the generic catalog to add a new library item, remove an item, and retrieve item details.
4. Error Handling: Implement error handling to manage scenarios such as attempting to remove a non-existent item. Errors should be handled gracefully with clear messages.
5. Logic and Computation.
6. Program Flow and Structure.
7. Output.
8. Code style and readability.

Submission Instructions

- Read the rubric on how you are going to be graded before you start to work on this assignment.
- Remember to use appropriate variable names and follow best practices of coding. Please provide a screenshot of the outputs. Submit the assignment in MS Word or PDF file.

This assignment will be assessed by your instructor using the rubric below.

Submission status

Attempt number	This is attempt 1.
Submission status	Submitted for grading
Grading status	Graded
Time remaining	Assignment was submitted 6 hours 4 mins early
Last modified	Thursday, 14 March 2024, 5:50 PM
File submissions	Programming Assignment Unit 6.pdf 14 March 2024, 5:50 PM

Submission comments	▸ Comments (0)

Grading criteria

Implementation of Generic class	Implemented a generic catalog class that can store information about library items (e.g., books, DVDs, magazines). Created a generic LibraryItem class with attributes such as title, author, and itemID. Also,the LibraryItem class is compatible with the generic catalog. ***20 points***	Implemented Generic catalog class that stores information about library items. Created generic LibraryItem class with attributes such as title, author, and itemID. However, the LibraryItem class is not compatible with generic catalog. ***16 points***	Generic catalog class not implemented correctly. Also, LibraryItem class is not compatible with generic catalog. ***10 points***	Incorrect implementation of Generic catalog class and LibraryItem. ***0 points***
Implementation of Generic methods	Developed methods correctly within the generic catalog to add a new library item, remove an item, and retrieve item details. Error handling has also been done properly. ***20 points***	Developed methods within the generic catalog to add a new library item, remove an item, and retrieve item details. But all operations are not done properly. Error handling has also not been done properly. ***10 points***	Incorrect Implementation of Methods in the generic catalog. ***0 points***	
Logic and Computation	The program accurately demonstrated the operations of the library catalog. ***20 points***	The program accurately demonstrated some of the operations on the library catalog. ***10 points***	The program does not correctly demonstrate the operations of the library catalog. ***0 points***	
Program Flow and Structure	The program follows a logical flow and is well-structured. Proper variable declaration and initialization are done. Meaningful variable names and appropriate data types are used. ***20 points***	The program follows a logical flow and is structured. Variable names and data types used are not correct. ***10 points***	Variables are not declared, no proper logical flow and inappropriate data types declared. ***0 points***	
Output	Provide a screenshot of the program's output demonstrating all the operations. ***10 points***	The program does not provide a screenshot of the program's output. ***0 points***		

Code Style and Readability	The code follows consistent indentation and formatting conventions. The code is easy to read and understand. The program does not contain any unnecessary or redundant code. ***10 points***	The code does not have proper indentation and formatting. ***8 points***	Unnecessary code and no proper indentation are followed. ***5 points***	Redundant code. ***0 points***

Feedback

Grade	8.60 / 10.00
Graded on	Saturday, 16 March 2024, 7:33 AM
Graded by	 Vikas Thada (Instructor)
Feedback comments	Dear Richard Interactive CUI is missing otherwise okay. Regards

Grade breakdown

Implementation of Generic class	Implemented a generic catalog class that can store information about library items (e.g., books, DVDs, magazines). Created a generic LibraryItem class with attributes such as title, author, and itemID. Also,the LibraryItem class is compatible with the generic catalog. ***20 points***	Implemented Generic catalog class that stores information about library items. Created generic LibraryItem class with attributes such as title, author, and itemID. However, the LibraryItem class is not compatible with generic catalog. ***16 points***	Generic catalog class not implemented correctly. Also, LibraryItem class is not compatible with generic catalog. ***10 points***	Incorrect implementation of Generic catalog class and LibraryItem. ***0 points***

Implementation of Generic methods	Developed methods correctly within the generic catalog to add a new library item, remove an item, and retrieve item details. Error handling has also been done properly. ***20 points***	Developed methods within the generic catalog to add a new library item, remove an item, and retrieve item details. But all operations are not done properly. Error handling has also not been done properly. ***10 points***	Incorrect Implementation of Methods in the generic catalog. ***0 points***	
Logic and Computation	The program accurately demonstrated the operations of the library catalog. ***20 points***	The program accurately demonstrated some of the operations on the library catalog. ***10 points***	The program does not correctly demonstrate the operations of the library catalog. ***0 points***	
Program Flow and Structure	The program follows a logical flow and is well-structured. Proper variable declaration and initialization are done. Meaningful variable names and appropriate data types are used. ***20 points***	The program follows a logical flow and is structured. Variable names and data types used are not correct. ***10 points***	Variables are not declared, no proper logical flow and inappropriate data types declared. ***0 points***	
Output	Provide a screenshot of the program's output demonstrating all the operations. ***10 points***	The program does not provide a screenshot of the program's output. ***0 points***		
Code Style and Readability	The code follows consistent indentation and formatting conventions. The code is easy to read and understand. The program does not contain any unnecessary or redundant code. ***10 points***	The code does not have proper indentation and formatting. ***8 points***	Unnecessary code and no proper indentation are followed. ***5 points***	Redundant code. ***0 points***