

Abstract Class Implementation – Media Library

Objective

Design a simple Java application that demonstrates the concept of **abstraction** and **dynamic method dispatch** using an abstract class named `Media`. The application should allow users to input and display details about different types of media: **Books**, **Movies**, and **Songs**.



Requirements

1. Define an abstract class `Media` with the following:
 - o Fields: `title`, `creator`, `duration`
 - o A `Scanner` object for input
 - o An **abstract method** `void printDetails()` to be implemented by child classes
 2. Create the following three subclasses that extend the `Media` class:
 - o **Book**
 - Accept user input for book title, author, and number of pages
 - Display the book details
 - o **Movie**
 - Accept user input for movie title, director, and duration in minutes
 - Display the movie details
 - o **Song**
 - Accept user input for song title, singer, and duration in minutes
 - Display the song details
 3. In the `main()` method of the `AbstractMediaDemo` class:
 - o Create a base class reference (`Media`)
 - o Assign it to each subclass one by one (`Book`, `Movie`, `Song`)
 - o Call `printDetails()` on each instance using **dynamic method dispatch**
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Sample Output

```
Entering Book Details...
Enter Book Title: The Alchemist
Enter Author Name: Paulo Coelho
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Enter Number of Pages: 208
Book - Title: The Alchemist, Author: Paulo Coelho, Pages: 208

🎬 Entering Movie Details...
Enter Movie Title: Inception
Enter Director Name: Christopher Nolan
Enter Duration (in minutes): 148
Movie - Title: Inception, Director: Christopher Nolan, Duration: 148 mins

🎵 Entering Song Details...
Enter Song Title: Imagine
Enter Singer Name: John Lennon
Enter Duration (in minutes): 3
Song - Title: Imagine, Singer: John Lennon, Duration: 3 mins
