

Hands-on Assignments for Interfaces

Complete the below hands-on assignments before proceeding with the next Topic

No.	Hands-on Assignment	Topics Covered	Status
1	<p>An online library application need to be created for two types of users/roles-Adults and children. Both of these users should be able to register an account.</p> <p>Any user who is less than 12 years of age will be registered as a child and they can borrow a "Kids" category book for 10 days, whereas an adult can borrow "Fiction" category books which need to be returned within 7 days.</p> <p>Note: In future, more users/roles might be added to the library where similar rules will be enforced.</p> <p>Develop Interfaces and classes for the categories mentioned above.</p> <p>1. Create an interface LibraryUser with the following methods void registerAccount() void requestBook() 2. Create 2 classes "KidUsers" and "AdultUser" which implements the LibraryUser interface.</p> <p>3. Both the classes should have two instance variables - age(int),bookType(String)</p> <p>4. The methods in the KidUser class should perform the following logic.</p> <p>registerAccount():</p> <p>if age < 12, a message displaying "You have successfully registered under a Kids Account" should be displayed in the console.</p> <p>If(age>12), a message displaying, "Sorry, Age must be less than 12 to register as a kid" should be displayed in the console.</p> <p>requestBook():</p>	Interfaces	<input type="checkbox"/>

	<p>if bookType is "Kids", a message displaying "Book Issued successfully, please return the book within 10 days" should be displayed in the console,else, a message displaying, "Oops, you are allowed to take only kids books" should be displayed in the console.</p> <p>5. The methods in the AdultUser class should perform the following logic.</p> <p>registerAccount():</p> <p>if age > 12, a message displaying "You have successfully registered under an Adult Account" should be displayed in the console.</p> <p>If age<12, a message displaying, "Sorry, Age must be greater than 12 to register as an adult" should be displayed in the console.</p> <p>requestBook function:</p> <p>if bookType is "Fiction", a message displaying "Book Issued successfully, please return the book within 7 days" should be displayed in the console., else, a message displaying, "Oops, you are allowed to take only adult Fiction books" should be displayed in the console.</p> <p>6. Create a class "LibraryInterfaceDemo.java" with a main method and test the functionalities by creating objects of KidUser and AdultUser classes.</p>		
2	<p>Write an interface called Playable, with a method void play(); Let this interface be placed in a package called music.</p> <p>Write a class called Veena which implements Playable interface. Let this class be placed in a package music.string</p> <p>Write a class called Saxophone which implements Playable interface. Let this class be placed in a package music.wind</p> <p>Write another class Test in a package called live. Then, a. Create an instance of Veena and call play() method b. Create an instance of Saxophone and call play() method</p>	Interfaces	<input type="checkbox"/>

	c. Place the above instances in a variable of type Playable and then call play()		
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