

## Scenario: Library Catalog Using HashMap

You are working on a library catalog system where you need to create a program to manage books using a HashMap data structure in Java. Each book's record should include the book title, author name, and ISBN. You need to implement various operations to add, search, and remove books from the catalog.

Consider the following scenario where you need to implement a program to manage books using a HashMap:

You are given the following class representing a book's record:

```
class Book {
    String title;
    String author;
    String ISBN;

    public Book(String title, String author, String ISBN) {
        this.title = title;
        this.author = author;
        this.ISBN = ISBN;
    }

    @Override
    public String toString() {
        return "Title: " + title + ", Author: " + author + ", ISBN: " +
ISBN;
    }
}
```

Your task is to implement a LibraryCatalog class that uses a HashMap to manage book records. The class should have the following methods:

**void addBook(Book book)** - Adds a new book to the catalog.  
**Book searchBook(String ISBN)** - Searches for a book by its ISBN and returns the book's record. If the book is not found, return null.  
**boolean removeBook(String ISBN)** - Removes the book with the given ISBN from the catalog. Returns true if the removal is successful, and false otherwise.  
**void displayCatalog()** - Displays the details of all books in the catalog.

Write the LibraryCatalog class and a sample program to demonstrate the usage of the implemented methods. Ensure that the HashMap operations are correctly handling different scenarios, such as adding, searching, removing, and displaying book records.

Note: You can choose to implement the HashMap from scratch or utilize Java's built-in HashMap class from the java.util package. Make sure to create a clear and concise implementation that effectively manages the library