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class BookNode:
    def __init__(self, book_id, title, author, status="Available"):
        self.book_id = book_id
        self.title = title
        self.author = author
        self.status = status
        self.next = None

class BookLinkedList:
    def __init__(self):
        self.head = None

    def insertBook(self, book_id, title, author, status="Available"):
        new_book = BookNode(book_id, title, author, status)
        if not self.head:
            self.head = new_book
        else:
            temp = self.head
            while temp.next:
                temp = temp.next
            temp.next = new_book
        print(f"Book '{title}' added successfully.")

    def deleteBook(self, book_id):
        temp = self.head
        prev = None
        while temp:
            if temp.book_id == book_id:
                if prev:
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                prev.next = temp.next
            else:
                self.head = temp.next
            print(f"Book ID {book_id} deleted successfully.")
            return
        prev = temp
        temp = temp.next
    print("Book not found!")

def searchBook(self, book_id):
    temp = self.head
    while temp:
        if temp.book_id == book_id:
            print(f"\nBook Found:\nID: {temp.book_id}\nTitle: {temp.title}\nAuthor:
{temp.author}\nStatus: {temp.status}")
            return temp
        temp = temp.next
    print("Book not found!")
    return None

def displayBooks(self):
    if not self.head:
        print("No books in the library.")
        return
    print("\nCurrent Books in Library:")
    temp = self.head
    while temp:
        print(f"ID: {temp.book_id}, Title: {temp.title}, Author: {temp.author}, Status: {temp.status}")
        temp = temp.next
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class Stack:
    def __init__(self):
        self.items = []

    def push(self, item):
        self.items.append(item)

    def pop(self):
        if not self.is_empty():
            return self.items.pop()
        return None

    def is_empty(self):
        return len(self.items) == 0

    def display(self):
        if self.is_empty():
            print("No transactions yet.")
            return
        print("\nRecent Transactions:")
        for transaction in reversed(self.items):
            print(transaction)

class TransactionSystem:
    def __init__(self):
        self.book_list = BookLinkedList()
        self.transaction_stack = Stack()

    def issueBook(self, book_id):
        book = self.book_list.searchBook(book_id)
        if book and book.status == "Available":
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            book.status = "Issued"
            self.transaction_stack.push(("Issue", book_id))
            print(f"Book ID {book_id} has been issued.")
        else:
            print("Book is not available or not found.")

    def returnBook(self, book_id):
        book = self.book_list.searchBook(book_id)
        if book and book.status == "Issued":
            book.status = "Available"
            self.transaction_stack.push(("Return", book_id))
            print(f"Book ID {book_id} has been returned.")
        else:
            print("Book is not issued or not found.")

    def undoTransaction(self):
        if self.transaction_stack.is_empty():
            print("No transactions to undo.")
            return
        action, book_id = self.transaction_stack.pop()
        book = self.book_list.searchBook(book_id)
        if not book:
            print("Book not found.")
            return
        if action == "Issue":
            book.status = "Available"
            print(f"Undo successful: Book ID {book_id} is now Available.")
        elif action == "Return":
            book.status = "Issued"
            print(f"Undo successful: Book ID {book_id} is now Issued.")
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    def viewTransactions(self):
        self.transaction_stack.display()


def main():
    system = TransactionSystem()

    while True:
        print("\n--- Library Book Management System ---")
        print("1. Add Book")
        print("2. Delete Book")
        print("3. Search Book")
        print("4. Display All Books")
        print("5. Issue Book")
        print("6. Return Book")
        print("7. Undo Last Transaction")
        print("8. View Transactions")
        print("9. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            book_id = int(input("Enter Book ID: "))
            title = input("Enter Book Title: ")
            author = input("Enter Author Name: ")
            system.book_list.insertBook(book_id, title, author)
        elif choice == '2':
            book_id = int(input("Enter Book ID to delete: "))
            system.book_list.deleteBook(book_id)
        elif choice == '3':
            book_id = int(input("Enter Book ID to search: "))
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            system.book_list.searchBook(book_id)
        elif choice == '4':
            system.book_list.displayBooks()
        elif choice == '5':
            book_id = int(input("Enter Book ID to issue: "))
            system.issueBook(book_id)
        elif choice == '6':
            book_id = int(input("Enter Book ID to return: "))
            system.returnBook(book_id)
        elif choice == '7':
            system.undoTransaction()
        elif choice == '8':
            system.viewTransactions()
        elif choice == '9':
            print("Exiting Library System. Goodbye!")
            break
        else:
            print("Invalid choice! Please try again.")

if __name__ == "__main__":
    main()
```