In [ ]:

```python
# LibraryManager.py

# Dictionary to store book details with ISBN as the key
# Dictionary of books
books = {
    '978-0134670958': {
        'title': 'Operating Systems: Three Easy Pieces',
        'author': 'Remzi H. Arpaci-Dusseau',
        'publisher': 'Arpaci-Dusseau Books',
        'volume': 1,
        'year': 2020,
        'isbn': '978-0134670958'
    },
    '978-0262033848': {
        'title': 'Introduction to Algorithms',
        'author': 'Thomas H. Cormen',
        'publisher': 'The MIT Press',
        'volume': 3,
        'year': 2021,
        'isbn': '978-0262033848'
    },
    '978-0134692881': {
        'title': 'Machine Learning Yearning',
        'author': 'Andrew Ng',
        'publisher': 'Self-Published',
        'volume': 1,
        'year': 2022,
        'isbn': '978-0134692881'
    },
    '978-0134853987': {
        'title': 'Designing Data-Intensive Applications',
        'author': 'Martin Kleppmann',
        'publisher': 'O\'Reilly Media',
        'volume': 1,
        'year': 2021,
        'isbn': '978-0134853987'
    },
    '978-0596529321': {
        'title': 'Python Data Science Handbook',
        'author': 'Jake VanderPlas',
        'publisher': 'O\'Reilly Media',
        'volume': 1,
        'year': 2021,
        'isbn': '978-0596529321'
    },
    '978-0134685991': {
        'title': 'Python for Data Analysis',
        'author': 'Wes McKinney',
        'publisher': 'O\'Reilly Media',
        'volume': 2,
        'year': 2022,
        'isbn': '978-0134685991'
    },
    '978-0596009205': {
        'title': 'Learning Python',
        'author': 'Mark Lutz',
        'publisher': 'O\'Reilly Media',
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        'volume': 5,
        'year': 2021,
        'isbn': '978-0596009205'
    },
    '978-0135166307': {
        'title': 'Computer Systems: A Programmer\'s Perspective',
        'author': 'Randy Bryant',
        'publisher': 'Pearson',
        'volume': 3,
        'year': 2021,
        'isbn': '978-0135166307'
    },
    '978-0134685991': {
        'title': 'Python for Data Analysis',
        'author': 'Wes McKinney',
        'publisher': 'O\'Reilly Media',
        'volume': 2,
        'year': 2022,
        'isbn': '978-0134685991'
    },
    '978-0135957059': {
        'title': 'Artificial Intelligence: A Modern Approach',
        'author': 'Stuart Russell',
        'publisher': 'Pearson',
        'volume': 4,
        'year': 2022,
        'isbn': '978-0135957059'
    },
    '978-0133092175': {
        'title': 'Data Structures and Algorithm Analysis in Python',
        'author': 'Clifford A. Shaffer',
        'publisher': 'CRC Press',
        'volume': 3,
        'year': 2021,
        'isbn': '978-0133092175'
    },
    '978-0367330231': {
        'title': 'Introduction to Machine Learning with Python',
        'author': 'Andreas C. Müller',
        'publisher': 'O\'Reilly Media',
        'volume': 1,
        'year': 2021,
        'isbn': '978-0367330231'
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    '978-0134375990': {
        'title': 'Modern Operating Systems',
        'author': 'Andrew S. Tanenbaum',
        'publisher': 'Prentice Hall',
        'volume': 4,
        'year': 2023,
        'isbn': '978-0134375990'
    },
    '978-0134842901': {
        'title': 'The Pragmatic Programmer',
        'author': 'Andrew Hunt',
        'publisher': 'Addison-Wesley',
        'volume': 20,
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        'year': 2021,
        'isbn': '978-0134842901'
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    '978-0367332496': {
        'title': 'Deep Learning with Python',
        'author': 'François Chollet',
        'publisher': 'Manning Publications',
        'volume': 1,
        'year': 2022,
        'isbn': '978-0367332496'
    },
    '978-0134505231': {
        'title': 'Computer Networks',
        'author': 'Andrew S. Tanenbaum',
        'publisher': 'Prentice Hall',
        'volume': 5,
        'year': 2022,
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        'title': 'Programming Python',
        'author': 'Mark Lutz',
        'publisher': 'O\'Reilly Media',
        'volume': 4,
        'year': 2021,
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        'author': 'Stuart Russell',
        'publisher': 'Pearson',
        'volume': 4,
        'year': 2022,
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    '978-0596158102': {
        'title': 'Data Science from Scratch',
        'author': 'Joel Grus',
        'publisher': 'O\'Reilly Media',
        'volume': 1,
        'year': 2023,
        'isbn': '978-0596158102'
    },
    '978-0135166307': {
        'title': 'Computer Systems: A Programmer\'s Perspective',
        'author': 'Randy Bryant',
        'publisher': 'Pearson',
        'volume': 3,
        'year': 2021,
        'isbn': '978-0135166307'
    },
    '978-0132815557': {
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        'author': 'Michael Sipser',
        'publisher': 'Cengage Learning',
        'volume': 3,
        'year': 2022,
```

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        'isbn': '978-0132815557'
    },
    '978-0134685991': {
        'title': 'Python for Data Analysis',
        'author': 'Wes McKinney',
        'publisher': 'O\'Reilly Media',
        'volume': 2,
        'year': 2022,
        'isbn': '978-0134685991'
    },
    '978-0134831695': {
        'title': 'Computer Vision: Algorithms and Applications',
        'author': 'David L. Poole',
        'publisher': 'Springer',
        'volume': 1,
        'year': 2021,
        'isbn': '978-0134831695'
    },
    '978-0367332380': {
        'title': 'Introduction to Data Science',
        'author': 'Jeffrey Stanton',
        'publisher': 'Springer',
        'volume': 1,
        'year': 2022,
        'isbn': '978-0367332380'
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    '978-0135988061': {
        'title': 'Data Structures and Algorithm Analysis in C++',
        'author': 'Clifford A. Shaffer',
        'publisher': 'CRC Press',
        'volume': 4,
        'year': 2021,
        'isbn': '978-0135988061'
    },
    '978-0262536305': {
        'title': 'Programming Collective Intelligence',
        'author': 'Toby Segaran',
        'publisher': 'The MIT Press',
        'volume': 1,
        'year': 2023,
        'isbn': '978-0262536305'
    },
    '978-0134295482': {
        'title': 'Principles of Compiler Design',
        'author': 'Aho, Sethi, Ullman',
        'publisher': 'Pearson',
        'volume': 1,
        'year': 2022,
        'isbn': '978-0134295482'
    },
    '978-0132148505': {
        'title': 'Elements of Programming Interviews',
        'author': 'Adnan Aziz',
        'publisher': 'EPI',
        'volume': 1,
        'year': 2023,
        'isbn': '978-0132148505'
```

```
    }
}


def add_book(isbn, title, author, publisher, volume, year, isbn_number):
    """Add a book to the library."""
    if isbn in books:
        print("Book with this ISBN already exists.")
    else:
        books[isbn] = {
            'title': title,
            'author': author,
            'publisher': publisher,
            'volume': volume,
            'year': year,
            'isbn': isbn_number
        }
        print(f"Book '{title}' added successfully.")

def remove_book(isbn):
    """Remove a book from the library by its ISBN."""
    if isbn in books:
        del books[isbn]
        print(f"Book with ISBN {isbn} removed successfully.")
    else:
        print("Book with this ISBN does not exist.")

def get_book_details(isbn):
    """Retrieve and display the details of a book using its ISBN."""
    if isbn in books:
        book = books[isbn]
        for key, value in book.items():
            print(f"{key.capitalize()}: {value}")
    else:
        print("Book with this ISBN does not exist.")

def search_books(query):
    """Search for books by title or author."""
    found_books = []
    for isbn, details in books.items():
        if query.lower() in details['title'].lower() or query.lower() in d
            found_books.append((isbn, details))
    if found_books:
        for isbn, details in found_books:
            print(f"\nISBN: {isbn}")
            for key, value in details.items():
                print(f"{key.capitalize()}: {value}")
    else:
        print("No books found matching the query.")

def list_all_books():
    """List all books currently in the library."""
    if books:
        for isbn, details in books.items():
            print(f"\nISBN: {isbn}")
            for key, value in details.items():
                print(f"{key.capitalize()}: {value}")
```

```
286     else:
287         print("No books in the library.")
288 
289 def update_book(isbn, title=None, author=None, publisher=None, volume=None
290     """Update the details of an existing book."""
291     if isbn in books:
292         book = books[isbn]
293         if title is not None:
294             book['title'] = title
295         if author is not None:
296             book['author'] = author
297         if publisher is not None:
298             book['publisher'] = publisher
299         if volume is not None:
300             book['volume'] = volume
301         if year is not None:
302             book['year'] = year
303         if isbn_number is not None:
304             book['isbn'] = isbn_number
305         print(f"Book with ISBN {isbn} updated successfully.")
306     else:
307         print("Book with this ISBN does not exist.")
308 
309 def is_book_available(isbn):
310     """Check if a book is available in the library by its ISBN."""
311     return isbn in books
```

In [ ]:

```
1 
```