CW5-1: OOP – Magic Methods – Data Hiding

1. Magic Methods

Design a class called **Book** that represents a book. Implement the following magic methods to explore the concept of magic methods:

- __init__(self, title, author): Initialize the title and author attributes.
- __str__(self): Return a string representation of the book, displaying the title and author.
- __len__(self): Return the length of the book, representing the number of pages.
- __getitem__(self, index): Retrieve the page content at the given index.
- __setitem__(self, index, content): Set the page content at the given index.
- __delitem__(self, index): Delete the page at the given index.
- __contains__(self, keyword): Check if the book contains a specific keyword.

```python
book = Book("The Catcher in the Rye", "J.D. Salinger")
book.pages = ["Page 1 content", "Page 2 content", "Page 3 content"]

print(book)  # Output: "Book: The Catcher in the Rye by J.D. Salinger"
print(len(book))  # Output: 3
print(book[2])  # Output: "Page 3 content"
book[2] = "Updated content for page 3"
print(book[2])  # Output: "Updated content for page 3"
del book[1]
print(len(book))  # Output: 2
print("Catcher" in book)  # Output: False
print("content" in book)  # Output: True
```