Question: Object-Oriented Programming (27 marks)

You are required to design a simple library management system using Object-Oriented Programming (OOP) principles. The system should be able to manage books and members. Each book has a title, author, and ISBN number. Each member has a name, membership ID, and a list of borrowed books.

Class Descriptions:

Book Class

Attribute/Method	Description
`title`	`str`: The title of the book
`author`	`str`: The author of the book
`isbn`	`str`: The ISBN number of the book
`get_title()`	Returns the title of the book
`set_title(title)`	Sets the title of the book
`get_author()`	Returns the author of the book
`set_author(author)`	Sets the author of the book
`get_isbn()`	Returns the ISBN number of the book
`set_isbn(isbn)`	Sets the ISBN number of the book

Member Class

Attribute/Method	Description
`name`	`str`: The name of the member
`membership_id`	`str`: The membership ID of the member
`borrowed_books`	`list`: A list of books borrowed by the member
`get_name()`	Returns the name of the member
`set_name(name)`	Sets the name of the member
`get_membership_id()`	Returns the membership ID of the member
`set_membership_id(membership_id)`	Sets the membership ID of the member
`borrow_book(book)`	Adds a book to the member's list of borrowed books
`return_book(book)`	Removes a book from the member's list of borrowed books

Tasks:

1. **Declare the `Book` Class (5 marks)**

    - Write program code to declare the `Book` class, its attributes, and constructor.
    - Do not write program code for the get methods.
    - Use your programming language's appropriate constructor.
    - All attributes must be private. If you are writing in Python, include attribute declarations using comments.
    - Save your program as `Question1_N22`.
    - Copy and paste the program code into part 1(a) in the evidence document.

2. **Define `Book` Class Methods (6 marks)**

    - Write program code for the class methods `get_title()`, `set_title(title)`, `get_author()`, `set_author(author)`, `get_isbn()`, and `set_isbn(isbn)`.
    - Save your program.
    - Copy and paste the program code into part 1(b) in the evidence document.

3. **Declare the `Member` Class (5 marks)**

    - Write program code to declare the `Member` class, its attributes, and constructor.
    - Do not write program code for the get methods.
    - Use your programming language's appropriate constructor.
    - All attributes must be private. If you are writing in Python, include attribute declarations using comments.
    - Save your program as `Question1_N22`.
    - Copy and paste the program code into part 1(c) in the evidence document.

4. **Define `Member` Class Methods (6 marks)**

    - Write program code for the class methods `get_name()`, `set_name(name)`, `get_membership_id()`, `set_membership_id(membership_id)`, `borrow_book(book)`, and `return_book(book)`.
    - Save your program.
    - Copy and paste the program code into part 1(d) in the evidence document.

5. **Main Program (5 marks)**

    - Write a main program to demonstrate the use of these classes and methods.
    - The program should create instances of `Book` and `Member`, and demonstrate borrowing and returning books.
    - Save your program.
    - Copy and paste the program code into part 1(e) in the evidence document.