

Task 4 Report: Furniture Store and Collections

1. General Introduction

The task involves designing a system for a fictional organization named "Furniture Store" that manages collections of furniture. The objective is to create classes that implement the `LegalEntity` interface and manage various collections of furniture.

2. Classes and Functionality

a. FurnitureStore

Goal:

- The `FurnitureStore` class represents the main entity of the organization. It manages collections of furniture and implements methods to interact with these collections.

Functionality:

- Implements the `LegalEntity` interface, providing methods to retrieve the address and VAT number of the store.
- Manages multiple collections of furniture items using data structures like lists or maps.
- Provides methods to add, remove, and retrieve furniture items from collections.
- Includes functionalities for managing inventory, such as checking stock levels and updating quantities.

b. Collection

Goal:

- The `Collection` class represents a specific category or type of furniture collection within the store.

Functionality:

- Stores furniture items belonging to a particular category or type.

- Provides methods to add, remove, and retrieve furniture items from the collection.
- Includes functionalities for sorting and searching furniture items within the collection based on criteria such as price, style, or availability.
- Supports operations related to managing and updating the contents of the collection.

3. Implementation Considerations

- **Data Structures:** Utilize appropriate data structures (e.g., lists, maps) to store and manage collections and furniture items efficiently.
- **Interface Implementation:** Ensure that the `LegalEntity` interface methods (`getAddress()` and `getVatNumber()`) are properly implemented in the `FurnitureStore` class to comply with organizational requirements and standards.
- **Functionality Expansion:** Depending on organizational needs, additional functionalities such as reporting, analytics, or customer interaction management could be added to enhance the capabilities of the `FurnitureStore` and `Collection` classes.

4. Conclusion

In conclusion, the implementation of the `FurnitureStore` and `Collection` classes provides a robust foundation for managing furniture collections within the organization. By adhering to the principles of object-oriented design and encapsulation, the system supports efficient management of inventory and ensures compliance with legal entity requirements through the `LegalEntity` interface.

This report outlines the design and functionality of the system, focusing on its ability to organize and manage furniture collections effectively within the context of a furniture retail environment.