

Publishing company

General Introduction

In the software development industry, representing real-world entities through object-oriented programming (OOP) is crucial for building robust and maintainable applications. In this task, we aim to create a "Publishing Company" system that can manage a list of "Publications." The system will be designed using Java, an object-oriented language, to encapsulate the properties and behaviors of a publishing company and its publications.

The goal is to implement a class structure that adheres to best practices in OOP, ensuring the code is modular, easy to understand, and maintainable. The system will include an interface for defining the core properties of a legal entity, a class for representing individual publications, and a class for managing the publishing company itself.

Class Legal Entity

Purpose: The Legal Entity interface serves as a contract that defines the essential properties any legal entity should possess. It mandates that any class implementing it must provide methods to retrieve its address and VAT (Value Added Tax) number. This standardization ensures consistency across different entities that are considered legal within the system.

Methods:

- `String getAddress():` Returns the address of the legal entity.
- `String getVatNumber():` Returns the VAT number of the legal entity.

Functionality: The LegalEntity interface provides a blueprint for any class that represents a legal entity, ensuring that it has methods to obtain the entity's address and VAT number. This interface is implemented by the PublishingCompany class to align with legal and organizational standards.

Example Usage:

```
public class PublishingCompany implements LegalEntity {  
  
    // Implementation details  
  
}
```

Class Publication

Purpose: The Publication class represents a single publication, encapsulating details such as the title, author, and ISBN (International Standard Book Number). This class is essential for modeling the entities that a publishing company manages and distributes.

Attributes:

- String title: The title of the publication.
- String author: The author of the publication.
- String isbn: The ISBN number of the publication.

Constructor:

- Publication(String title, String author, String isbn): Initializes a new publication with the specified title, author, and ISBN.

Methods:

- String getTitle(): Returns the title of the publication.
- String getAuthor(): Returns the author of the publication.
- String getIsbn(): Returns the ISBN of the publication.
- String toString(): Provides a string representation of the publication for easy display.

Functionality: The Publication class encapsulates the core details of a publication, making it easier to manage and manipulate publication data within the system. Each publication can be instantiated and used in various operations like adding to a list, searching, or displaying details.

Example Usage:

```
Publication pub1 = new Publication("Java Programming", "Jane Doe",  
"ISBN1234567890");
```

Class Publishing company

Purpose: The PublishingCompany class models a publishing company that manages a list of publications. It implements the LegalEntity interface, thereby ensuring it has legal properties such as address and VAT number. Additionally, it

provides methods to manage the list of publications, including adding new publications and retrieving the list.

Attributes:

- String companyName: The name of the publishing company.
- String address: The address of the company.
- String vatNumber: The VAT number of the company.
- List<Publication> publications: A list that holds all the publications managed by the company.

Constructor:

- PublishingCompany(String companyName, String address, String vatNumber): Initializes a new publishing company with the specified name, address, and VAT number.

Methods:

- String getAddress(): Returns the address of the company, fulfilling the LegalEntity contract.
- String getVatNumber(): Returns the VAT number of the company, fulfilling the LegalEntity contract.
- void addPublication(Publication publication): Adds a publication to the company's list of publications.
- List<Publication> getPublications(): Returns the list of all publications managed by the company.
- String toString(): Provides a string representation of the publishing company, including its publications, for easy display.

Functionality: The PublishingCompany class is the core component of the system, representing the company that manages and distributes publications. It ensures compliance with legal requirements through the LegalEntity interface and provides functionalities to handle publications effectively.

Example Usage:

```
PublishingCompany pc = new PublishingCompany("Book House", "123 Main St",  
"VAT123456");
```

```
Publication pub1 = new Publication("Java Programming", "Jane Doe",  
"ISBN1234567890");
```

```
pc.addPublication(pub1);
```

