Exercise:
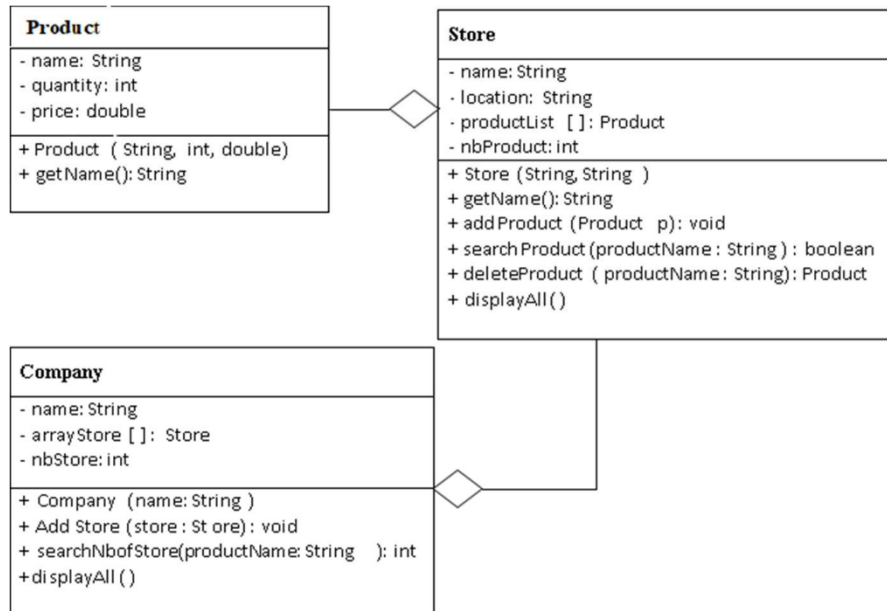
A company manages many stores. Each Store contains many Products. The UML diagram of this company system is represented as follow.

Product
- name: String - quantity: int - price: double
+ Product (String, int, double) + getName(): String

Store
- name: String - location: String - productList [ ]: Product - nbProduct: int
+ Store (String, String) + getName(): String + add Product (Product p): void + search Product (productName : String) : boolean + deleteProduct (productName: String): Product + displayAll ( )

Company
- name: String - array Store [ ]: Store - nbStore: int
+ Company (name: String) + Add Store (store : St ore) : void + searchNbofStore(productName: String   ): int +di splayAll ( )

Class Store:

Attribute: name, location, productList, nbProduct
Constructor: Store (name: String, location: String):

Method:

addProduct() that adds a new product. Maximum 100 products can be added. searchProduct() that accepts the name of product and return **True** if exist, **False** otherwise. deleteProduct() that accepts the name of product that has to be deleted and returns the deleted object.

displayAll() prints the name of products available in store.

Class Company:

Attribute: name, arrayStore, nbStore

Constructor: Company (name: string):

Method:

addStore() that adds a new Store. Maximum 10 stores can be added.

searchNbofStore() that accepts the name of product and returns the number of stores containing the product. displayAll() prints the name of stores belongs to company.