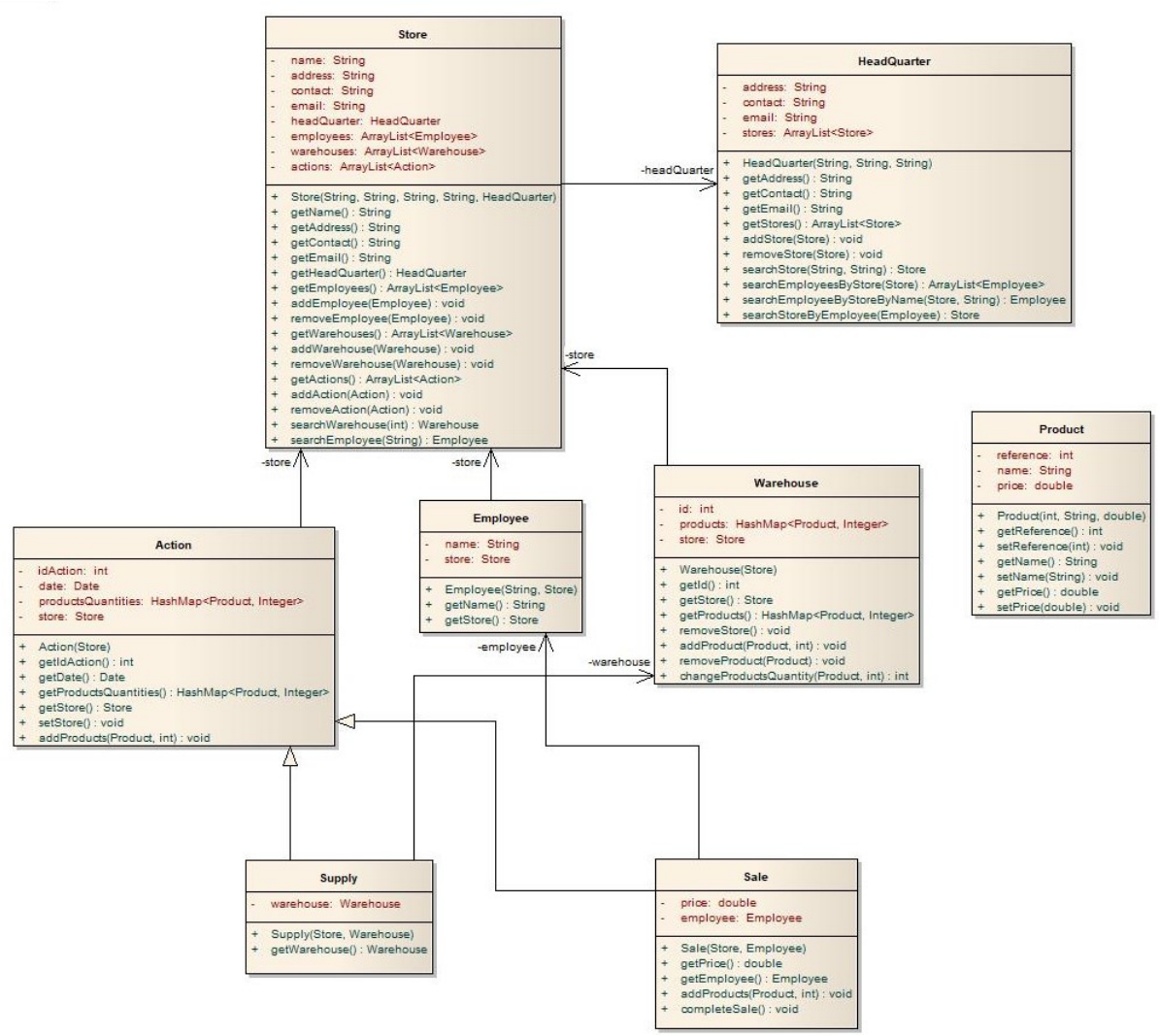
TVVS - Unit Testing Exercises

The following exercises are related to a chain of stores. Each chain has a headquarter and each store has a set of employees and warehouses, which contains different products.

Whenever there is a sale, the quantities of the respective products to be sold are verified in the different warehouses of the store. If at the time the product doesn't exist in a particular warehouse, a replacement order is issued for the product that has been sold out, since all warehouses must have some quantity of all products.

The class diagram of the created program is shown below.



Exercise 1

In this first exercise, each student should simply run the created unit tests. To do this, just select the "**test**" directory and select the **"Run all tests**" option. This exercise serves to see the unit tests passing.

Exercise 2

Next, you must uncomment the function "**getId()**" in the class "**ActionTest**" and re-run the tests. The class "**getId()**" won't pass the tests developed. Each student should then find the error in the code that causes that problem and should correct it. After correcting the source code, you should run the tests again to verify if all tests are finally passing.

Exercise 3

In this exercise you should create unit tests for the "**searchEmployeesByStore()**", "**searchEmployeeByStoreByName()"** and "**searchStoreByEmployee()**" functions that are in the "**HeadQuarterTest**" class.

The created tests should cover **100% of the code's lines**.

*To check the coverage of the tests, simply select each test class individually and select the "**Run (..) with Coverage**" option.*

Exercise 4

Now, you will exercise **TDD** (Test-Driven-Development). To do that each student will have to uncomment the "**completeSale()**" function of the "**SaleTest**" class and will have to create its source code.

The "**completeSale()**" function verifies that the products related to a respective sales order exist in the different warehouses of the store where the sale is being made. If the products exist entirely in a given warehouse, nothing extra must be done, if it exists partially in a warehouse, the search should be continued looking for a warehouse that satisfies the remaining quantity desired and if no product exists in the warehouse, a supply order must be issued (all warehouses must have some quantity of all products).

*As an aid, you should use the function "**changeProductQuantity()**" which exists in the class "**HeadQuarter**".*

After creating your source code, you should re-run the test function to verify that your code is correct.