Homework 2 (Polymorphism)

**Instructions**

Every assignment needs to provide two main artifacts – a complete working program, along with its full source code, and your solution documentation. The documentation should be in a single text file (e.g. doc), placed inside your Solution folder.

**For this assignment, the documentation will make 10% of the grade, and code will be 90%.**

In the documentation you need to describe the changes you made to the classes and the driver program, to fulfil the assignment requirements.

The software fraction of the homework will be graded according to the following rules:

* existence of compile-time errors not more than 20 %
* existence of run-time errors not more than 50 %
* existence of logical-errors not more than 70 %
* correct program not less than 70 %

The last 30 points for the software part will be given for **program comments**, efficiency, class hierarchies, textual representation, structure, layout, etc.

**NOTE:** If the program is not correct, credits for these properties will not be given!

**NOTE:** An incomplete implementation of the required functionality is considered a logical error.

**Deliverables**

A zipped top-level folder of the Visual Studio solution, containing all of the code, plus the document describing the program.

**NOTE:** You may be asked to demonstrate your solution in person.

**Deadline**

The complete homework (code and documentation) must be uploaded on Canvas no later than Sunday, 11th February, 2024, 23:59.

**NOTE: Late work will be accepted but penalized.**

**Task Description**

Use the code developed for **HW 1**.

1. Create an abstract class **Item**, having the abstract function: **double GetTotalPrice()**
2. Update the **Artifact** class to inherit **Item**

**Driver Program:**

Change the driver program from **HW 1** to:

1. Remove the Artifacts and Services vectors
2. Add a new vector called Items, which contains pointers to Item instances
3. Add at least 3 artifacts and 3 services to the Items collection
4. Use a loop to calculate and display the total prices of all elements in the Items collection