Object-Oriented Programming

Lecturer:

Teaching Assistant:

**Lab 04: Inheritance and Polymorphism**

# Import the existing project into the workspace of Eclipse

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# Additional requirements of AIMS

# Creating the **Book** class

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# Creating the abstract **Media** class

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# Creating the **CompactDisc** class

## A screen shot of a computer program Description automatically generated5.1. Create the **Disc** class extending the **Media** class

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## 5.2. Create the **Track** class which models a track on a compact disc and will store information incuding the **title** and **length** of the track

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## 5.3. Open the **CompactDisc** class

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# Create the Playable interface

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# Update the **Cart** class to work with **Media**

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# Update the **Store** class to work with **Media**

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# Constructors of whole classes and parent classes

- Which classes are aggregates of other classes? Checking all constructors of whole classes if they initialize for their parts?  
**Ans: Class Media**

- Write constructors for parent and child classes. Remove redundant setter methods if any

**-> source code**

# Unique item in a list

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# Polymorphism with toString() method

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Chạy trên aims.java

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# Sort media in the cart

So sánh theo cost trước

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So sánh theo Title trước

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**Question**: Alternatively, to compare items in the cart, instead of using Comparator, we can use the Comparable interface and override the compareTo()method. You can refer to the Java docs to see the information of this interface.

Suppose we are taking this Comparable interface approach.

* What class should implement the Comparable interface?
* > Lớp đại diện các đối tượng trong giỏ hàng, như Media
* In those classes, how should you implement the compareTo()method be to reflect the ordering that we want?
* > So sánh 2 đối tượng và trả về một số nguyên

+ Nếu giá trị trả về là âm, đối tượng hiện tại nhỏ hơn đối tượng so sánh.

+ Nếu giá trị trả về là dương, đối tượng hiện tại lớn hơn đối tượng so sánh.

+ Nếu giá trị trả về là 0, hai đối tượng bằng nhau.

* Can we have two ordering rules of the item (by title then cost and by cost then title) if we use this Comparable interface approach?
* > Không
* Suppose the DVDs has a different ordering rule from the other media types, that is by title, then decreasing length, then cost. How would you modify your code to allow this?
* > Trong media
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* Trong DigitalVideoDisc
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Chạy trong aims.java

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# Create a complete console application in the Aims class

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+Chọn 1

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* Chọn 1:

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* Chọn 2:

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* Chọn 1:

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* Chọn 2:

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* Chọn 3:

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* Chọn 4:

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* Chọn 5

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+Chọn 0

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