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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:

+ Media is aggregator of MediaComparatorByTitleCost and MediaComparatorByCostTitle

+ CompactDisc is aggregator of Track

+ Store and Cart is aggregator of Media

**Unique item in a list**

- If the passing object is not an instance of Media, what happens?

Ans:

+ We can not access the attribute of Media if we don’t cast the object to Media

**Polymorphism with toString() method**

- Observe what happens and explain in detail.

Ans:

The toString() is different for CD, DVD and Book, therefore the string that printed out will be different according to the class

**Sort media in the cart**

- 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?

  Ans: Media

- In those classes, how should you implement the compareTo() method be to reflect the ordering that we want?

  Ans: This is an implementation of compare by title cost

```
    @Override
  public int compareTo(Media other) {
    int titleComparison = this.title.compareTo(other.title);
    if (titleComparison != 0) {
      return titleComparison;
    }
    // If titles are the same, compare by cost (higher cost first)
    return Double.compare(other.cost, this.cost);
  }
```

- 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?

  Ans: If we use Comparable interface, there can only be one ordering

- 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?

  Ans: We can override compareTo() in DVD class to satisfy the ordering rule, so if we sort DVDs, the overriden method will be call r