Inheritance: MenuItem FRQ

The menu at a lunch counter includes a variety of sandwiches, salads, and drinks. The menu also allows a customer to create a "trio," which consists of three menu items: a sandwich, a salad, and a drink. The price of the trio is the sum of the two highest-priced menu items in the trio; one item with the lowest price is free.

Each menu item has a name and a price. The three types of menu items are represented by the four classes Sandwich, Salad, and Drink. All three classes extend the following MenuItem class.

```java
public class MenuItem {
    // @return the name of the menu item
    public String getName() {
        /* Implementation not shown. */
    }

    // @return the price of the menu item
    public double getPrice() {
        /* Implementation not shown. */
    }

    /* There may be instance variables, constructors and methods that are not shown. */
}
```

The following diagram shows the relationship between the MenuItem class and the Sandwich, Salad, and Drink classes.

```
  Item
 /   \
|     |
|     |
Sandwich   Salad    Drink
```

For example, assume that the menu includes the following items. The objects listed under each heading are instances of the class indicated by the heading.

<table>
<thead>
<tr>
<th>Sandwich</th>
<th>Salad</th>
<th>Drink</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Cheeseburger&quot;</td>
<td>&quot;Spinach Salad&quot;</td>
<td>&quot;Orange Soda&quot;</td>
</tr>
<tr>
<td>2.75</td>
<td>1.25</td>
<td>1.25</td>
</tr>
<tr>
<td>&quot;Club Sandwich&quot;</td>
<td>&quot;Coleslaw&quot;</td>
<td>&quot;Cappuccino&quot;</td>
</tr>
<tr>
<td>2.75</td>
<td>1.25</td>
<td>3.50</td>
</tr>
</tbody>
</table>
The menu allows customers to create a Trio, each of which includes a sandwich, a salad, and a drink. The name of the Trio consists of the names of the sandwich, salad, and drink, in that order, each separated by "/" and followed by a space and then "Trio". The price of the Trio is the sum of the two highest-priced items in the Trio; one item with the lowest price is free.

A trio consisting of a cheeseburger, spinach salad, and an orange soda would have the name "Cheeseburger/Spinach Salad/Orange Soda Trio" and a price of $4.00 (the two highest prices are $2.75 and $1.25). Similarly, a trio consisting of a club sandwich, coleslaw, and a cappuccino would have the name "Club Sandwich/Coleslaw/Cappuccino Trio" and a price of $6.25 (the two highest prices are $2.75 and $3.50).

Write the Trio class. You must include a constructor that takes three parameters representing a sandwich, salad, and drink. The following code segment should have the indicated behavior.

```java
    Sandwich sandwich;
    Salad salad;
    Drink drink;
    /* Code that initializes sandwich, salad, and drink */

    Trio trio = new Trio(sandwich, salad, drink); // Compiles without error
    Trio trio1 = new Trio(salad, sandwich, drink); // Compile-time error
    Trio trio2 = new Trio(sandwich, salad, salad); // Compile-time error
```

Write the complete Trio class below.

Testing Code Link:
https://www.jdoodle.com/a/24sd