Activity 3

09-22-2023

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# Part 1 Files

Step 1.H Screenshot

A screenshot of a computer

Description automatically generated

Step 2.E Screenshot

A screenshot of a computer

Description automatically generated

Step 2.G Screenshot

A screenshot of a computer

Description automatically generated

**Step 2.H Theory:** Before we added the age attribute, the compareTo method worked by comparing the last names of the Person objects and the Arrays.sort method would sort them via last names. With sorting by the age attribute, the sorting method arranges them from least to greatest, but I need to do some more messing around to figure out how to reverse it to greatest to least.

# Part 2 Files

Part 2 UMLs

A screenshot of a computer

Description automatically generated

Step 5.5 Screenshot

A screenshot of a computer

Description automatically generated

Step 6.D Screenshot

A screenshot of a computer

Description automatically generated

**Step 7.B Theory:** Polymorphism describes situations where something occurs in various forms. For this actibity, we have a base shape class called ShapeBase which is the parent for any shape we create. It has one method, calculateArea(), which is shared among every subclass. While the Cirlce, Rectangle, and Triangle classes have almost the same structure, each area is calculated differently. For the Trapezoid class, the structure is different with just one "extra" variable called widthShort, and obviously the calculateArea() method will have a different equation for calculating that area.

# Part 3 Files

Part 3 UMLs

A screenshot of a computer

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Step 4.G Screenshot

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**Step 5.B Theory:** With using the WeaponInterface, we can give all weapons the same methods to use, with the ability to be used in different ways. Putting all the multiple types of weapons into an array of WeaponInterfaces allows us to call those methods without having to use casts or even a separate array for Weapon and Bomb.

# Part 4 Files

Setting Breakpoints Part 1 Screenshot

A screenshot of a computer

Description automatically generated

Setting Breakpoints Part 2 Screenshot

A screenshot of a computer

Description automatically generated

Inspecting Variables Screenshot

A screenshot of a computer

Description automatically generated

Stepping Into, Over, and Step Return Screenshot

A screenshot of a computer

Description automatically generated

Call Stack Screenshot

A screenshot of a computer

Description automatically generated