**CPSC-24500: Object-Oriented Programming**

**Homework Week 2**

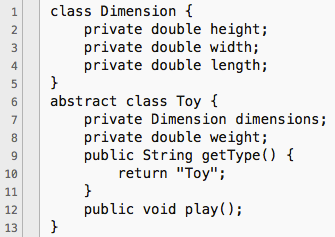
|  |  |  |
| --- | --- | --- |
| **Name:** |  | **Score \_\_\_\_\_ / 22** |

Instructions: Fill in your name above and please answer the questions below. Submit your answers via the Blackboard homework submission link by the end of the day Sunday, March 26. This is an individual assignment and answers are not to be shared.

You will need to save a copy of the MS Word file to your local drive, fill out the name and date information, and answer each question by highlighting the best answer, by writing your answer after the question, or my inserting an image. Please let me know if you have difficulties.

1. Have you installed your Java Development Environment and text editor? Please highlight all that apply. (3pts)
   1. I have downloaded and installed the Java development environment.
   2. I have successfully validated the Java development environment using “java -version” and “javac -version”
   3. I have installed my favorite text editor
2. What platform (Windows, Mac, Linux, etc.) and editor (Notepad, MS Code, etc.) will you be using initially for your assignments? (2pts)
   1. Platform:
   2. Text Editor:
3. Have you completed implementing “HelloWorld” in your local development environment? (3pts)
   1. I haven’t had a chance, but will do it soon.
   2. I tried but was not successful.
   3. Yes, I successfully coded and executed “HelloWorld” in my local environment?

Consider the following code:



1. There is something wrong with line 12. Write a corrected version below.

|  |
| --- |
|  |

1. The relationship between Toy and Dimension can be described as
   1. inheritance
   2. ownership
   3. association
   4. encapsulation
2. In Dimension, write a set function for the height that will ensure that it is not set negative.

|  |
| --- |
|  |

1. What is not true about constructors?
   1. They do not have return types.
   2. They have the same name as the name of the class.
   3. There can only be one per class.
   4. They are usually used to initialize the data members and memory of a new object you are creating.
2. Write a default constructor for Dimension that will set the width, height, and length equal to 0.

|  |
| --- |
|  |

1. Write a toString function for Dimension that will return a String containing the height, width, and length of a Dimension object, each with three digits after the decimal place.

|  |
| --- |
|  |

1. To create an object, which keyword do you have to use?
   1. new
   2. super
   3. this
   4. void
2. Write a default constructor for Toy that will set its weight to 0 and its dimensions to a default Dimension object. In other words, for that second part, you will use the default constructor for Dimension to create it.

|  |
| --- |
|  |

1. Write a default constructor for Toy that will set its weight to 0 and its dimensions to a default Dimension object. In other words, for that second part, you will have to use the default constructor for Dimension to create it).

|  |
| --- |
|  |

1. Write a non-default constructor for Toy that will set its width, height, length, and weight to values passed in to the constructor. Notice that setting the width, height, and length will involve creating a Dimension object. Assume you have written a setWeight function for Toy already that ensures that the weight is not set to a negative value.

|  |
| --- |
|  |

Consider the additional following code that creates a call called Action figure:

|  |
| --- |
| class ActionFigure extends Toy {  private String gender;  public String getType() {  return "ActionFigure";  }  } |

1. Which of the following is not true?
   1. It has data members called dimensions and weight.
   2. I can use the variable names dimensions and weight in ActionFigure’s code to set them.
   3. I will absolutely have to declare a play() function for it.
   4. I can pass an ActionFigure object to System.out.println, and its dimensions and type will be printed to the screen.
2. Write a default constructor for ActionFigure that set the gender to “F” and all of its other properties to default values. Reference the appropriate super class constructor to do this.

|  |
| --- |
|  |

1. Declare and create an ArrayList of Toy objects called toys.

|  |
| --- |
|  |