CS 249: Assignment 02

Programming Assignments (95%)

SpaceVessel.java

Create a java file with a public class SpaceVessel.

This class will have the following **PRIVATE** instance data variables:

- **private String vesselName** (default: "" (empty String))
- **private int height** (default: 0)
- **private int weight** (default: 0)

This class will also have the following PUBLIC instance methods/functions:

- **public String getName()**
  - Returns name
- **public int getLength()**
  - Returns length
- **public int getWeight()**
  - Returns weight
- **public void setName(String name)**
  - Set vesselName to equal name
- **public void setLength(int feet)**
  - Set length to equal feet
- **public void setWeight(double pounds)**
  - Set weight to equal pounds
- **public String getLengthString()**
  - Convert the length in feet to meters: **0.3048*length**
  - Create and return a String with the following contents:
    - length
    - " ft. ("
    - String.format("%.2f", meters)
    - " m)"
  - *Example*: "42 ft. (12.80 m)"
- **public String getWeightString()**
  - Convert the weight in pounds to kilograms: **0.4536*weight**
  - Create and return a String with the following contents:
    - weight
    - " lbs. ("

        - String.format("%.2f", kilograms)
        - " kg)"
    - *Example*: "238 lbs. (107.96 kg)"
- **public String toString() {**
    - Create a String that is a concatenation of:
        - "NAME: " + vesselName + "\n"
        - "LENGTH: " + getLengthString() + "\n"
        - "WEIGHT: " + getWeightString() + "\n
    - Return the String

Armada.java

Create a java file with a public class Armada. In its main() method, do the following:

- Create a **Scanner object to read from System.in**. Only create ONE Scanner object that reads from System.in!
- Create a **SpaceVessel object *vessel***: SpaceVessel vessel = new SpaceVessel()
- Print out "**Enter vessel name:**" using System.out.println().
- Read in the **name** as a LINE using the nextLine() method of your Scanner object and store it in a String variable.
- Print out "**Enter length and weight:**" using System.out.println().
- Read in the LINE using nextLine() method of your Scanner object and store it in a String variable.
    - Create ANOTHER Scanner from that String:
        - Scanner parseLine = new Scanner(line);
    - Using THIS Scanner:
        - Use nextInt() to read in the **length in feet**
        - Use nextInt() to read in the **weight in pounds**
- Use the **vessel.setName**, **vessel.setLength**, and **vessel.setWeight** methods to save the name, length, and weight of the vessel object.
- Using System.out.println, print out the value returned from **vessel.toString()**

Example Run (user input highlighted in blue):

```
Enter vessel name:
The Bebop
Enter length and weight:
  297       110231000
NAME: The Bebop
LENGTH: 297 ft. (90.53 m)
WEIGHT: 110231000 lbs. (50000781.60 kg)
```

Testing Screenshot (5%)

Submit a screenshot showing the results of running the test program(s).

Grading

Your OVERALL assignment grade is weighted as follows:

- 5% - Testing results screenshot
- 95% - Programming assignments

For the **PROGRAMMING** portion of the assignment, in addition to the usual penalties:

Issue	***Penalty (in %)***
SpaceVessel.java missing / not properly implemented	50
Armada.java missing / not properly implemented	50