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 length** (default: 0)
- **private int weight** (default: 0)

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

- **public String getName()**
    - ○ Returns vesselName
- **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(int 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