Moveable Lab APCSA

Objectives: To familiarize yourself with your IDE of choice and review how to work with interfaces and abstract classes, inheritance, constructors, other methods, instance data, etc. . . from our Computer Math course.

Description: First get the Moveable interface and the Animal abstract class files from VISION.

The interface and abstract class have been written and commented for you. Familiarize yourself with these files.

You will be writing 6 additional classes as described below. One of these classes is a driver to demonstrate your subclasses functionality. One of these classes is an abstract class which must contain at least one abstract method. The remaining 4 classes are subclasses; 2 subclasses of each abstract class.

Note that your driver can use polymorphism although it is not required.

The 6 classes:

* Driver: The driver will need to instantiate one object from each of the 4 subclasses and generate output as indicate below.
* Vehicle: This is another abstract class that will also implement the Moveable interface.
* Animal subclasses: You will write 2 subclasses of Animal. Each must move and speak differently.
* Vehicle subclasses: You will write 2 subclasses of Vehicle. Each must move differently and carry a different number of passengers.

Sample output:

Animal Fido is a dog that says Woof and it runs  
Vehicle 747 is a plane that carries 400 and it flies

**This will be graded in a dropbox. The rubric is on the back (and on the VISION dropbox). You will need to place all 6 files that you’ve written into the dropbox. I already have the files I’ve shared with you.**

Rubric:

|  |  |  |
| --- | --- | --- |
| Driver/output | Instantiates objects from the 4 subclasses and generates output as indicated | 3 |
| Vehicle class | Contains a constructor, any necessary methods and at least one abstract method. | 4 |
| Animal/Vehicle subclasses | Written and compiled (1 pt each) | 4 |
| Instance data | Properly declared | 2 |
| Constructors | Initialize values and make proper use of supercass constructors | 4 |
| Inheritance | Well demonstrated | 6 |