CSCE 145 Program4   Name:_____

Java Program: Animal Taxonomy

Setup

1. In Eclipse go to File/New/Java Project   name it: **Program4***YourlastnameYourfirstname*
2. Go to File/New/Class   name it the exact same as the project
3. You will need a main method: public static void main(String[] args){/*you code here*/}
4. Use either the Scanner class: import java.util.Scanner;//use .nextInt
   OR the JOptionPane class: import javax.swing.JOptionPane;//use Integer.parseInteger

Lab

1. Create an Animal class that has the constructor and methods:
   a. default constructor, asks for the walk speed and calls setWalk with this value and setType to "animal"
   b. setWalk that takes an int to assign to the variable '**walkSpeed**' but returns nothing
   c. setType that takes a String to assign to the variable '**type**' but returns nothing
   d. getMove that takes no arguments but returns the String("walks " + **walkSpeed**)
   e. getSkin that takes no arguments but returns the String "an epidermis"
   f. getMessage that takes no arguments but returns the String
   ("The " + **type** + " has " + getSkin + " and " + getMove)
2. Create a Mammal class that extends Animal and overrides the method:
   a. default constructor, that calls setType and sends "mammal"
   b. getSkin that takes no arguments but returns the String "fur"
3. Create a Fish class that extends Animal and overrides the methods:
   a. default constructor, calls setType and sends "fish", and sets class variable **swimSpeed** = **walkSpeed** /4
   b. getMove that takes no arguments but returns the String("swims " + swimSpeed)
   c. getSkin that takes no arguments but returns the String "scales"
4. Create a Bird class that extends Animal and overrides the methods:
   a. default constructor, that calls setType and sends "bird", and sets class variable **flySpeed** = **walkSpeed** *4
   b. getMove that takes no arguments but returns the String("flies " + **flySpeed**)
   c. getSkin that takes no arguments but returns the String "feathers"
5. In the main method create a length 4 array of Animals, in the array store one object of each class above
   a. In a **for** loop call the getMessage of each object in the array, output should be (if all **walkSpeed** = 4):
   "The animal has an epidermis and walks 4"
   "The mammal has fur and walks 4"
   "The fish has scales and swims 1"
   "The bird has feathers and flies 16"

Use proper and clear comments//usually one comment per section of code, explain each step, pick proper variable types and use clear names for variables and methods. Include the following at the **TOP OF EACH YOUR CLASSES**:

         Name: *Your Name*   **School**: USC Sumter
         Assignment: Program4   **Class**: CSCE 145
         Semester: *current semester and year*   **Date**: *date turned in*

Grading: **Function:**   objectives met (takes in all input, code matches above structure)

part1	20%
part2	10%
part3	10%
part4	10%
part5	20%
Organization: doc, code (variable & method names), & organization (classes & methods)	15%
Style: clear explanation (messages to user)	15%