**package** animalshelter;

**import** java.text.DecimalFormat;

**import** javax.swing.JOptionPane;

**public** **class** AnimalShelterTester

{

**public** **static** **void** main(String[] args)

{

**int** menu = 1, age;

DecimalFormat money = **new** DecimalFormat("$###,###,###,###.00");

AnimalShelter as = **new** AnimalShelter();

String name, breed;

**try**

{

**while**(menu <= 4 && menu >= 1)

{

menu = Integer.*parseInt*(JOptionPane.*showInputDialog*(

"Please choose from the following menu:\n" +

"1 – Display list of dogs\n" +

"2 - Add a dog to the shelter\n" +

"3 - Remove a dog from the shelter\n" +

"4 - Display the operating cost of the shelter\n" +

"5 - Exit the program"));

**switch**(menu)

{

**case** 1: System.***out***.println(as.toString());

**break**;

**case** 2:

**try**

{

name = JOptionPane.*showInputDialog*("Please enter the name of the dog");

}

**catch**(Exception e)

{

name = "Unnamed, #" + as.population();

}//end catch

**try**

{

breed = JOptionPane.*showInputDialog*("Please enter the breed of the dog");

}//end try

**catch**(Exception e)

{

breed = "Mixed breed (unknown)";

}//end catch

age = -1;

**while**(age < 1 || age > 30)

{

**try**

{

age = Integer.*parseInt*(JOptionPane.*showInputDialog*("Please enter the age of the dog (max 30 years)"));

}

**catch**(Exception e)

{

age = -1;

}//end catch

}//end loop

as.addDog(**new** Dog(name, breed, age));;

**break**;

**case** 3:

as.toString();

age = -1;

**while**(age < 1 || age > as.population())

{

age = Integer.*parseInt*(JOptionPane.*showInputDialog*("Please enter which of the dogs you would like to remove,\nfrom 1 to " + as.population() + ":"));

}//end case 3

as.removeDog(age - 1);;

**break**;

**case** 4: System.***out***.println("The Daily cost of operating the shelter (at $15/dog daily) = " + money.format(as.operatingCosts()));;

**break**;

**default**: System.***out***.println("Program now exiting...");;

}//end switch

}//end loop

}//end try

**catch**(Exception e)

{

menu = 5;

}//end catch

}//end main

}//end class

**package** animalshelter;

**import** java.util.ArrayList;

**public** **class** AnimalShelter

{

**private** ArrayList<Dog> dogs = **new** ArrayList<Dog>();

**public** AnimalShelter()

{

dogs.add(**new** Dog("Nutmeg", "Pomeranian", randAge()));

dogs.add(**new** Dog("Sadie", "Poodle", randAge()));

dogs.add(**new** Dog("Jackie", "Jack Russel", randAge()));

}//end constructor

**public** **int** randAge()

{

**return** (**int**) (Math.*random*() \* 13 + 1);

}//end randAge

**public** **void** addDog(Dog dg)

{

dogs.add(dg);

}//end add

**public** **void** removeDog(**int** index)

{

dogs.remove(index);

}//end remove

**public** Dog getDog(**int** index)

{

**return** dogs.get(index);

}//end get

**public** **int** population()

{

**return** dogs.size();

}//end pop.

**public** **double** operatingCosts()

{

**return** 15 \* population();

}//end operatingCosts

**public** String toString()

{

String output = "Current Animal Shelter\n=====================";

**for**(**int** i = 0; i < population(); i++)

{

output += "\nDog # " + (i + 1);

output += "\nName: " + dogs.get(i).getName();

output += "\nBreed: " + dogs.get(i).getBreed();

output += "\nAge: " + dogs.get(i).getAge() + "\n";

}//end for

**return** output;

}//end toString

}//end class

**package** animalshelter;

**public** **class** Dog

{

//Instance Variables

**private** String name, breed;

**private** **int** age;

//constructors

**public** Dog(String nm, String bd, **int** ag)

{

setName(nm);

setBreed(bd);

setAge(ag);

}//end constructor

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getBreed() {

**return** breed;

}

**public** **void** setBreed(String breed) {

**this**.breed = breed;

}

**public** **int** getAge() {

**return** age;

}

**public** **void** setAge(**int** age) {

**this**.age = age;

}

}//end class



















