Animals

Animal

First implement an abstract class called `Animal`. The class should have a constructor that takes the animal's name as a parameter. The Animal class also has non-parameterized methods eat and sleep that return nothing (void), and a non-parameterized method getName that returns the name of the animal.

The sleep method should print "(name) sleeps", and the eat method should print "(name) eats". Here (name) is the name of the animal in question.

Dog

Implement a class called `Dog` that inherits from Animal. Dog should have a parameterized constructor that can be used to name it. The class should also have a non-parameterized constructor, which gives the dog the name "Dog". Another method that Dog must have is the non-parameterized bark, and it should not return any value (void). Like all animals, Dog needs to have the methods eat and sleep.

Below is an example of how the class Dog is expected to work.

```
Dog dog = new Dog();
dog.bark();
dog.eat();

Dog fido = new Dog("Fido");
fido.bark();
```

Sample output:
Dog barks Dog eats Fido barks

Cat

Next to implement is the class `Cat`, that also inherits from the Animal class. Cat should have two constructors: one with a parameter, used to name the cat according to the parameter, and one without parameters, in which case the name is simply

"Cat". Another methd for Cat is a non-parameterized method called purr that returns no value (void). Cats should be able to eat and sleep like in the first part.

Here's an example of how the class Cat is expected to function:

```
Cat cat = new Cat();
cat.purr();
cat.eat();

Cat garfield = new Cat("Garfield");
garfield.purr();
```

Sample output:
Cat purrs Cat eats Garfield purrs

NoiseCapable

Finally, create an interface called `NoiseCapable`. It should define a non-parameterized method makeNoise that returns no value (void). Implement the interface in the classes Dog and Cat. The interface should take use of the bark and purr methods you've defined earlier.

Below is an example of the expected functionality.

```
NoiseCapable dog = new Dog();
dog.makeSound();

NoiseCapable cat = new Cat("Garfield");
cat.makeSound();
Cat c = (Cat) cat;
c.purr();
```

Sample output:
Dog barks Garfield purrs Garfield purrs