

Write a Java program to create a base class `Animal` with methods `eat()` and `sound()`. Create three subclasses: `Lion`, `Tiger`, and `Panther`. Override the `eat()` method in each subclass to describe what each animal eats. In addition, override the `sound()` method to make a specific sound for each animal.

Sample Solution:

Java Code:

```
// Animal.java
// Define the Animal class
class Animal {
    // Method for animal to eat
    public void eat() {
        // Print that the animal eats
        System.out.println("Animal eats.");
    }

    // Method for animal to make a sound
    public void sound() {
        // Print that the animal makes a sound
        System.out.println("Animal makes a sound.");
    }
}
```

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```
// Lion.java
// Define the Lion class that extends Animal
class Lion extends Animal {
    // Override the eat method
    @Override
    public void eat() {
        // Print that the lion eats meat
        System.out.println("Lion eats meat.");
    }

    // Override the sound method
    @Override
    public void sound() {
        // Print that the lion roars
        System.out.println("Lion roars.");
    }
}
```

```
}  
}
```

```
// Tiger.java  
// Define the Tiger class that extends Animal  
class Tiger extends Animal {  
    // Override the eat method  
    @Override  
    public void eat() {  
        // Print that the tiger eats meat and sometimes fish  
        System.out.println("Tiger eats meat and sometimes fish.");  
    }  
  
    // Override the sound method  
    @Override  
    public void sound() {  
        // Print that the tiger growls  
        System.out.println("Tiger growls.");  
    }  
}
```

```
// Panther.java  
// Define the Panther class that extends Animal  
class Panther extends Animal {  
    // Override the eat method  
    @Override  
    public void eat() {  
        // Print that the panther eats meat and small mammals  
        System.out.println("Panther eats meat and small mammals.");  
    }  
  
    // Override the sound method  
    @Override  
    public void sound() {  
        // Print that the panther purrs and sometimes hisses  
        System.out.println("Panther purrs and sometimes hisses.");  
    }  
}
```

```
// Main.java  
// Define the Main class
```

```
public class Main {  
    // Main method, program entry point  
    public static void main(String[] args) {  
        // Create an Animal reference to a Lion object  
        Animal lion = new Lion();  
        // Create an Animal reference to a Tiger object  
        Animal tiger = new Tiger();  
        // Create an Animal reference to a Panther object  
        Animal panther = new Panther();  
  
        // Call the eat method on the lion object  
        lion.eat();  
        // Call the sound method on the lion object  
        lion.sound();  
  
        // Call the eat method on the tiger object  
        tiger.eat();  
        // Call the sound method on the tiger object  
        tiger.sound();  
  
        // Call the eat method on the panther object  
        panther.eat();  
        // Call the sound method on the panther object  
        panther.sound();  
    }  
}
```

Output:

```
Lion eats meat.  
Lion roars.  
Tiger eats meat and sometimes fish.  
Tiger growls.  
Panther eats meat and small mammals.  
Panther purrs and sometimes hisses.
```

Explanation: