Chapter 11 Practice Set Questions by Munawar

Questions

1. Create an abstract class Pen with methods write () and refill () as abstract methods

Solution

```
// Questions 1
abstract class Pen{
    abstract void Write();
    abstract void refill();
}

class FuontainPen extends Pen{
    void Write(){
        System.out.println("Write");
    }
    void refill(){
        System.out.println("Refill");
    }
}
```

```
//Question 1
FuontainPen pen=new FuontainPen();
pen.ChangeNib();
```

2. Use the Pen class from Question1 to create a concrete class Fountain Pen with additional methods change Nib ().

Solution

```
// Questions 2
abstract class Pen{
    abstract void Write();
    abstract void refill();
}

class FuontainPen extends Pen{
    void Write(){
        System.out.println("Write");
    }
    void refill(){
        System.out.println("Refill");
    }
```

```
    void ChangeNib(){
        System.out.println("Changing the nib");
    }
}
```

```
//Question 2
FuontainPen pen=new FuontainPen();
pen.ChangeNib();
```

3. Create a class Monkey with jump () and bite () methods create a class human which inherits this Monkey class and implements basic Animal interface with eat () and sleep () methods.

Solution

```
// Question 3
class Monkey{
    void jump(){
        System.out.println("Jumping method");
    }
    void bite(){
        System.out.println("biting ..");
    }
}
interface  BasicAnimal{
    void eat();
    void sleep();
}
class Human extends Monkey implements BasicAnimal{
    void speak(){
        System.out.println("Hello sir ..");
    }

    @Override
    public void eat() {
        System.out.println("Eating .....");
    }

    @Override
    public void sleep() {
        System.out.println("Sleeping .......");
    }
}
```

```
// Question 3
Human hum=new Human();
hum.sleep();
hum.eat();
```

4. Create a class Telephone with ring (), lift () and disconnected () as abstract methods create another class Smart Telephone and demonstrate Polymorphism.

Solution

Self-Question

5. Demonstrate Polymorphism using monkey class from Question 3

Solution

```
// Question 5
class Monkey{
    void jump(){
        System.out.println("Jumping method");
    }
    void bite(){
        System.out.println("biting ..");
    }
}
interface  BasicAnimal{
    void eat();
    void sleep();
}
class Human extends Monkey implements BasicAnimal{
    void speak(){
        System.out.println("Hello sir ..");
    }

    @Override
    public void eat() {
        System.out.println("Eating .....");
    }

    @Override
    public void sleep() {
        System.out.println("Sleeping .......");
    }
}
```

```
// Question 5
Monkey m1=new Human();
//m1.speak()        // Error is occur
BasicAnimal kamal=new Human();
//kamal.speak()  // Error
kamal.sleep();
```

6. Create an interface TV Remote and use it to inherit another interface Smart TV Remote.

Solution

Self-Question

7. Create a class TV which implements TV Remote interface from Question 6.

Solution

Self-Question

Source code:

```
import javax.swing.plaf.synth.SynthTextAreaUI;
import java.util.Scanner;
import java.util.Random;

//// Questions 1
//abstract class Pen{
//    abstract void Write();
//    abstract void refill();
//}
//
//class FuontainPen extends Pen{
//    void Write(){
//        System.out.println("Write");
//    }
//    void refill(){
//        System.out.println("Refill");
//    }
//    void ChangeNib(){
//        System.out.println("Changing the nib");
//    }
//}


// Question 3
class Monkey{
    void jump(){
        System.out.println("Jumping method");
    }
    void bite(){
        System.out.println("biting ..");
```

```
    }
}
interface  BasicAnimal{
    void eat();
    void sleep();
}
class Human extends Monkey implements BasicAnimal{
    void speak(){
        System.out.println("Hello sir ..");
    }

    @Override
    public void eat() {
        System.out.println("Eating .....");
    }

    @Override
    public void sleep() {
        System.out.println("Sleeping .......");
    }
}


public class Main {
    public static void main (String [] args) {
//        //Question 1
//        FuontainPen pen=new FuontainPen();
//        pen.ChangeNib();

//        // Question 3
//        Human hum=new Human();
//        hum.sleep();
//        hum.eat();

        // Question 5
        Monkey m1=new Human();
        //m1.speak()        // Error is occur
        BasicAnimal kamal=new Human();
        //kamal.speak()  // Error
        kamal.sleep();
    }

}
```

Thank You