Java-Bagabandi.Erd-19b1num0700

```java
public class DeskPhone implements Callable {
    private int myNumber;
    private boolean isRinging;

    public DeskPhone() {
        this(0,false);
    }
    public DeskPhone(int myNumber, boolean isRinging) {
        this.myNumber = myNumber;
        this.isRinging = isRinging;
    }

    public int getMyNumber() {
        return myNumber;
    }

    public void setMyNumber(int myNumber) {
        this.myNumber = myNumber;
    }

    public boolean isRinging() {
        return isRinging;
    }

    public void setRinging(boolean ringing) {
        isRinging = ringing;
    }

    @Override
    public void powerOn() {
        System.out.println("power on Desk phone.");
    }

    @Override
    public void dial(int phoneNumber) {
        setRinging(true);
        setMyNumber(phoneNumber);
    }

    @Override
    public void answer() {
        if(this.isRinging){
            System.out.println("Hello, It's desk phone("+ getMyNumber() + ").");
        }else{
            System.out.println("Sorry, It's power off.");
        }
    }

    @Override
    public boolean callPhone(int phoneNumber) {
        return this.myNumber == phoneNumber;
    }

    @Override
    public String toString() {
        return "DeskPhone{" +
                "myNumber=" + myNumber +
                ", isRinging=" + isRinging +
                '}';
    }
}

```

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```java
public class MobilePhone implements Callable{
    private int myNumber;
    private boolean isRinging;

    public MobilePhone() {
        this(0,false);
    }

    public MobilePhone(int myNumber, boolean isRinging) {
        this.myNumber = myNumber;
        this.isRinging = isRinging;
    }

    public int getMyNumber() {
        return myNumber;
    }

    public void setMyNumber(int myNumber) {
        this.myNumber = myNumber;
    }

    public boolean isRinging() {
        return isRinging;
    }

    public void setRinging(boolean ringing) {
        isRinging = ringing;
    }

    @Override
    public void powerOn() {
        System.out.println("power on Mobile phone.");
    }

    @Override
    public void dial(int phoneNumber) {
        setRinging(true);
        setMyNumber(phoneNumber);
    }

    @Override
    public void answer() {
        if(this.isRinging){
            System.out.println("Hello, It's mobile phone("+ getMyNumber() + ").");
        }else{
            System.out.println("Sorry, It's power off.");
        }
    }

    @Override
    public boolean callPhone(int phoneNumber) {
        return this.myNumber == phoneNumber;
    }

    @Override
    public String toString() {
        return "MobilePhone{" +
                "myNumber=" + myNumber +
                ", isRinging=" + isRinging +
                '}';
    }
}

```

```java
public interface Callable {
    void powerOn(); //утсаа асаах
    void dial(int phoneNumber); //дугаар луу залгах
    void answer(); //дуудлагад хариу өгөх
    boolean callPhone(int phoneNumber); //өгөгдсөндугаар луу залгагдаж буй эсэх
    boolean isRinging(); //утас дуугарч байгаа эсэх
}

```

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```java
public abstract class Creature {
    int x;
    int y;
    int age;

    public Creature(int x, int y, int age) {
        this.x = x;
        this.y = y;
        this.age = age;
    }

    public void age(){
        age++;
    }

    public void move(int xDistance){
        x += xDistance;
    }

    public int getX() {
        return x;
    }

    public void setX(int x) {
        this.x = x;
    }

    public int getY() {
        return y;
    }

    public void setY(int y) {
        this.y = y;
    }

    public int getAge() {
        return age;
    }

    public void setAge(int age) {
        this.age = age;
    }
}

```

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```java
public abstract class Human extends Creature implements Talkable{
    public Human(int x, int y, int age) {
        super(x, y, age);
    }

    public abstract void attack();

    @Override
    public void talk() {
        System.out.println("Hello, It's me.");
    }
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public abstract class Animal extends Creature implements Talkable{
    public Animal(int x, int y, int age) {
        super(x, y, age);
    }

    public abstract void attack();
}

```

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```java
public interface Talkable {
    void talk();
}

```

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```java
public class Kevin extends Human implements Swimable, Programmer{

    double swimming = 0;
    boolean solveProblem;
    boolean writingCode;

    public Kevin(int x, int y, int age, boolean solveProblem, boolean writingCode) {
        super(x, y, age);
        this.solveProblem = solveProblem;
        this.writingCode = writingCode;
    }

    public double getSwimming() {
        return swimming;
    }

    public void setSwimming(double swimming) {
        this.swimming = swimming;
    }

    public boolean isSolveProblem() {
        return solveProblem;
    }

    public void setSolveProblem(boolean solveProblem) {
        this.solveProblem = solveProblem;
    }

    public boolean isWritingCode() {
        return writingCode;
    }

    public void setWritingCode(boolean writingCode) {
        this.writingCode = writingCode;
    }

    @Override
    public void attack() {
        System.out.println("Fight!!!");
    }

    @Override
    public void swim(int xDistance) {
        swimming += xDistance;
    }

    @Override
    public void swimMove(int xDistance, int yDistance) {
        swimming += Math.sqrt(xDistance*xDistance + yDistance*yDistance);
    }

    @Override
    public void solveProblem() {
        if(solveProblem){
            System.out.println("Solved problem.");
        }
    }

    @Override
    public void writingCode() {
        if(writingCode){
            System.out.println("finished.");
        }
    }

    @Override
    public String toString() {
        return "Kevin{" +
                "x=" + x +
                ", y=" + y +
```

```
                ", age=" + age +
                ", swimming=" + swimming +
                ", solveProblem=" + solveProblem +
                ", writingCode=" + writingCode +
                '}';
    }
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public class Turtle extends Animal implements Swimable{

    double swimming = 0;

    public Turtle(int x, int y, int age) {
        super(x, y, age);
    }

    public double getSwimming() {
        return swimming;
    }

    public void setSwimming(double swimming) {
        this.swimming = swimming;
    }

    @Override
    public void attack() {
        System.out.println("Bite!!!");
    }

    @Override
    public void swim(int xDistance) {
        swimming += xDistance;
    }

    @Override
    public void swimMove(int xDistance, int yDistance) {
        swimming += Math.sqrt(xDistance * xDistance + yDistance*yDistance);
    }

    @Override
    public void talk() {
        System.out.println("Aun aun");
    }

    @Override
    public String toString() {
        return "Turtle{" +
                "x=" + x +
                ", y=" + y +
                ", age=" + age +
                ", swimming=" + swimming +
                '}';
    }
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public class Pigeon extends Animal implements Flyable{

    double flying = 0;

    public Pigeon(int x, int y, int age) {
        super(x, y, age);
    }

    public double getFlying() {
        return flying;
    }

    public void setFlying(double flying) {
        this.flying = flying;
    }

    @Override
    public void attack() {
        System.out.println("Peck!!!");
    }

    @Override
    public void fly(int yDistance) {
        flying += yDistance;
    }

    @Override
    public void flyMove(int xDistance, int yDistance) {
        flying += Math.sqrt(xDistance*xDistance + yDistance*yDistance);
    }

    @Override
    public void talk() {
        System.out.println("Guyan guyan");
    }

    @Override
    public String toString() {
        return "Pigeon{" +
                "x=" + x +
                ", y=" + y +
                ", age=" + age +
                ", flying=" + flying +
                '}';
    }
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public interface Programmer {
    void solveProblem();
    void writingCode();
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public interface Swimable {
    void swim(int xDistance);
    void swimMove(int xDistance, int yDistance);
}

```

Java-Bagabandi.Erd-19b1num0700

```java
public interface Flyable {
    void fly(int yDistance);
    void flyMove(int xDistance, int yDistance);
}

```

Java-Bagabandi.Erd-19b1num0700

```java
import java.util.Scanner;

public class MainApp {
    MainApp(int probNum){
        switch (probNum){
            case 1: {
                System.out.println("Problem01: ");
                testCallable();
                break;
            }
            case 2: {
                System.out.println("Problem02: ");
                testAbstractClass();
                break;
            }
            default:{
                System.out.println("Sorry, problem not found!");
                break;
            }
        }
    }

    static Scanner input(String str){
        System.out.print(str);
        return new Scanner(System.in);
    }

    public static void main(String[] args) {
        while(true){
            int probNum = input("Enter problem number (if stop it, enter 0): ").nextInt();
            if(probNum == 0){
                break;
            }
            new MainApp(probNum);
        }
    }

    void testCallable(){
        /*
            • Ширээний утас объект үүсгэнэ
            • Гар утас объект үүсгэнэ
            • Утас тус бүрийг асаана.
            • Утас тус бүрээс өгөгдсөн дугаар луу дуудлага хийнэ
            • Утас бүр дуудлагад хариу өгнө
         */
        DeskPhone deskPhone = new DeskPhone();
        MobilePhone mobilePhone = new MobilePhone();
        deskPhone.powerOn();
        mobilePhone.powerOn();
        deskPhone.dial(input("Enter desk phone number: ").nextInt());
        mobilePhone.dial(input("Enter mobile phone number: ").nextInt());
        deskPhone.answer();
        mobilePhone.answer();
    }

    void testAbstractClass(){
        Kevin kevin = new Kevin(input("Enter x of Kevin: ").nextInt(), input("Enter y of Kevin: ").
nextInt(), input("Enter age of Kevin: ").nextInt(), true, true);
        Turtle turtle = new Turtle(input("Enter x of Turtle: ").nextInt(), input("Enter y of Turtle: ").
nextInt(), input("Enter age of Turtle: ").nextInt());
        Pigeon pigeon = new Pigeon(input("Enter x of Pigeon: ").nextInt(), input("Enter y of Pigeon: ").
nextInt(), input("Enter age of Pigeon: ").nextInt());
        kevin.getSwimming();
        kevin.swim(input("Enter swim distance on x of Kevin: ").nextInt());
        kevin.talk();
        kevin.attack();
        kevin.writingCode();
        kevin.toString();
        turtle.getSwimming();
        turtle.attack();
```

```
68          turtle.swimMove(input("Enter swim distance on x of Turtle: ").nextInt(), input("Enter swim
    distance on y of Turtle: ").nextInt());
69          turtle.toString();
70          pigeon.getFlying();
71          pigeon.flyMove(input("Enter fly distance on x of Pigeon: ").nextInt(), input("Enter fly
    distance on x of Pigeon: ").nextInt());
72          pigeon.attack();
73          pigeon.talk();
74          pigeon.toString();
75      }
76  }
77
```

```
Enter problem number (if stop it, enter 0): 1
Problem01:
power on Desk phone.
power on Mobile phone.
Enter desk phone number: 99206304
Enter mobile phone number: 99650592
Hello, It's desk phone(99206304).
Hello, It's mobile phone(99650592).
Enter problem number (if stop it, enter 0): 2
Problem02:
Enter x of Kevin: 12
Enter y of Kevin: 2
Enter age of Kevin: 23
Enter x of Turtle: 34
Enter y of Turtle: 100
Enter age of Turtle: 56
Enter x of Pigeon: 100
Enter y of Pigeon: 1000
Enter age of Pigeon: 3
Enter swim distance on x of Kevin: 5
Hello, It's me.
Fight!!!
finished.
Bite!!!
Enter swim distance on x of Turtle: 6
Enter swim distance on y of Turtle: 3
Enter fly distance on x of Pigeon: 6
Enter fly distance on x of Pigeon: 7
Peck!!!
Guyan guyan
Enter problem number (if stop it, enter 0): 0

Process finished with exit code 0
```