

2.2 b)

2.2.1 Dance Code

```
import java.util.ArrayList;
class Dance {
    private String name;
    private String beat;
    private Object[] figures = new Object[3];

    public Object[] getFigures() {
        return figures;
    }

    public void setFigures(Object[] figures) {
        for(int i = 0; i < figures.length; i++){
            this.figures[i] = figures[i];
        }
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getBeat() {
        return beat;
    }

    public void setBeat(String beat) {
        this.beat = beat;
    }
}

class StandardDance extends Dance{

}

class LatinDance extends Dance{

}

class Figure{
    private String name;
    private String text;

    public String getName() {
```

```
return name;
}

public void setName(String name) {
    this.name = name;
}

public String getText() {
    return text;
}

public void setText(String text) {
    this.text = text;
}
}

class Sequence extends Figure{
    private String name;
    public ArrayList<Object> figures = new ArrayList<Object>();
    public void setSequence(ArrayList sequence){
        this.figures = sequence;
    }
    public boolean add(Figure figure){
        if( figure instanceof Sequence){
            return false;
        }
        else{
            figures.add(figure);
            return true;
        }
    }
}
```

2.2.2 Dance Database

```
import java.io.FileReader;
import java.lang.reflect.Array;
import java.util.ArrayList;

public class DanceDatabase {
    public static void main(String[] args) {
        Figure Rightturn = new Figure();
        Rightturn.setName("Rightturn");
        Rightturn.setText("Turning right");

        Figure Circle = new Figure();
        Circle.setName("Circle");
    }
}
```

```
Circle.setText("Circle");

Figure Whisk = new Figure();
Whisk.setName("Whisk");

Figure Chasse = new Figure();
Chasse.setName("Chassé");
Chasse.setText("Chassé");

Figure Fan = new Figure();
Fan.setText("Fan");
Fan.setName("Fan");

Figure Basic = new Figure();
Basic.setName("Basic Movement");
Basic.setText("Basic Movement");

Figure Promenade = new Figure();
Promenade.setText("Promenade");
Promenade.setName("Promenade");

Sequence S_Whisk = new Sequence();
if(S_Whisk.add(Chasse)){
    System.out.println("Hinzufügen erfolgreich");
    //Um diese Prüfung zu realisieren musste das Objekt Array auf eine Objekte
    //gespeichert werden.
}
else{
    System.out.println("Hinzufügen nicht erfolgreich");
}

StandardDance Walzer = new StandardDance();
Walzer.setName("Walzer");
Walzer.setBeat("3/4");
Object[] figures = new Object[]{Rightturn, Circle, Whisk};
Walzer.setFigures(figures);
figures = null;

StandardDance Tango = new StandardDance();
Tango.setBeat("4/4");
Tango.setName("Tango");
figures= new Object[]{Basic, Promenade};
Tango.setFigures(figures);
figures= null;

StandardDance Quickstep = new StandardDance();
```

```
Tango.setBeat("4/4");
Tango.setName("Quickstep");
figures = new Object[]{Basic, Circle};
Tango.setFigures(figures);
figures= null;

LatinDance Cha = new LatinDance();
Cha.setBeat("4/4");
Cha.setName("ChaChaCha");
figures = new Object[]{Basic, Fan};
Cha.setFigures(figures);
figures= null;

LatinDance Rumba = new LatinDance();
Rumba.setBeat("4/4");
Rumba.setName("Rumba");
figures = new Object[]{Basic, Fan};
Cha.setFigures(figures);
figures= null;

LatinDance Jive = new LatinDance();
Jive.setBeat("4/4");
Jive.setName("ChaChaCha");
figures = new Object[]{Basic};
Jive.setFigures(figures);
figures= null;
    }
}
```

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```
public boolean add(Figure figure){
    if( figure instanceof Sequence){
        return false;
    }
    else{
        figures.add(figure);
        return true;
    }
}
```

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3.1 a)

```
public class Out {  
    public void out(String s){  
        System.out.println(s);  
    }  
    public void out(boolean b){  
        System.out.println(b);  
    }  
    public void out(int i){  
        System.out.println(i);  
    }  
    public void out(double d){  
        System.out.println(d);  
    }  
    public void out(char c){  
        System.out.println(c);  
    }  
  
    public void out(Object o){  
        System.out.println(o);  
    }  
}
```