

Design Pattern

Memento

```
public class Chessman {
    private String label;
    private int x;
    private int y;

    public Chessman(String label,int x,int y) {
        super();
        this.label = label;
        this.x = x;
        this.y = y;
    }

    public String getLabel() {
        return label;
    }

    public void setLabel(String label) {
        this.label = label;
    }

    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 ChessmanMemento save() {
        return new ChessmanMemento(label,x,y);
    }

    public void restore(ChessmanMemento memento) {
        label = memento.getLabel();
        x = memento.getX();
        y = memento.getY();
    }

    public void print() {
        StringBuilder stringBuilder = new StringBuilder();
        stringBuilder.append("{ ");
        stringBuilder.append("Chess ").append(label).append(" : ");
        stringBuilder.append("(").append(x)
            .append(", ").append(y).append(")");
        stringBuilder.append("}");
        System.out.println(stringBuilder.toString());
    }
}
```

```

public class ChessmanMemento {
    private String label;
    private int x;
    private int y;

    public ChessmanMemento(String label,int x,int y) {
        super();
        this.label = label;
        this.x = x;
        this.y = y;
    }

    public String getLabel() {
        return label;
    }

    public void setLabel(String label) {
        this.label = label;
    }

    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 class MementoCaretaker {
    private ChessmanMemento memento;

    public ChessmanMemento getMemento() {
        return memento;
    }

    public void setMemento(ChessmanMemento memento) {
        this.memento = memento;
    }
}

```

```

public class Application {
    public static void main(String... args) {
        MementoCaretaker mementoCaretaker = new MementoCaretaker();
        Chessman chess = new Chessman("Car",1,1);
        chess.print();
        mementoCaretaker.setMemento(chess.save());
        chess.setY(4);
        chess.print();
        mementoCaretaker.setMemento(chess.save());
        chess.print();
        chess.setX(5);
        chess.print();
        System.out.println("--- undo");
        chess.restore(mementoCaretaker.getMemento());
        chess.print();
    }
}

```