

Java数据结构---基于数组的表 PDF转换可能丢失图片或格式
， 建议阅读原文

https://www.100test.com/kao_ti2020/144/2021_2022_Java_E6_95_B0_E6_8D_AE_c104_144542.htm 我没看过 其他语言版的数据结构,但觉得java的实现方法很巧妙--用类和对象来实现.基于数组的表,思想很简单就是定义一个类用来存储一组数据,我定义的是ArrayListClass类,在类中定义用来操作数组的方法.其实就是这么简单,但具体操作起来就会遇到很多麻烦了!我们这个ArrayListClass类中首先应该包括一个数组型的域list,用来存放数据,这样放在同一数组中数据之间就产生了位置上的联系,使对数据的操作变的简单.然而这个数组到底是什么数据类型的,我们期望这个表能用于所有的数据类型,我们不能将他单纯的固定成某一种.所以我们必须将这个数据普通化,解决的办法就是定义一个类,作为所有数据类型的超类.看这

```
个DataElement: public abstract class DataElement { public abstract
boolean equals(DataElement otherElement). public abstract int
compareTo(DataElement otherElement). public abstract void
makeCopy(DataElement otherElement). public abstract
DataElement getCopy(). } 将他定义成为抽象的,再在定义其他数
据类型时继承并实现它,我定义了两个数据类型IntElement
和StringElement: IntElement: public class IntElement extends
DataElement { protected int num. //constructors public
IntElement(){ num=0. } public IntElement(int number){
num=number. } public IntElement(IntElement otherElement){
num=otherElement.num. } ///get-set Methods public void
setNum(int number){ num=number. } public int getNum(){ return
```

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num. } /* (non-Javadoc) * @see DataElement#equals(DataElement)
*/ public boolean equals(DataElement otherElement) { // TODO
Auto-generated method stub IntElement
newe=(IntElement)otherElement. return (this.num==newe.num). }
/* (non-Javadoc) * @see DataElement#compareTo(DataElement) */
public int compareTo(DataElement otherElement) { // TODO
Auto-generated method stub IntElement
newe=(IntElement)otherElement. if(this.num==newe.num) return
0. else if(this.num>newe.num) return 1. else return -1. } /*
(non-Javadoc) * @see DataElement#makeCopy(DataElement) */
public void makeCopy(DataElement otherElement) { // TODO
Auto-generated method stub IntElement
newe=(IntElement)otherElement. this.num=newe.num. } /*
(non-Javadoc) * @see DataElement#getCopy() */ public
DataElement getCopy() { // TODO Auto-generated method stub
IntElement newElement=new IntElement().
newElement.num=this.num. return newElement. } public String
toString(){ return String.valueOf(num). } } StringElement: public
class StringElement extends DataElement { /** */ private String str.
//constructors public StringElement() { str=null. } public
StringElement(String string){ str=string. } public
StringElement(StringElement otherElement){ str=otherElement.str.
} //get-set Methods public void setStr(String string){ str=string. }
public String getStr(){ return str. } /* (non-Javadoc) * @see
DataElement#equals(DataElement) */ public boolean
equals(DataElement otherElement) { // TODO Auto-generated

```

```
method stub StringElement newe=(StringElement)otherElement.  
return (str==newe.str). } /* (non-Javadoc) * @see  
DataElement#compareTo(DataElement) */ public int  
compareTo(DataElement otherElement) { // TODO  
Auto-generated method stub StringElement  
newe=(StringElement)otherElement. return  
(str.compareTo(newe.str)). } /* (non-Javadoc) * @see  
DataElement#makeCopy(DataElement) */ public void  
makeCopy(DataElement otherElement) { // TODO Auto-generated  
method stub StringElement newe=(StringElement)otherElement.  
str=newe.str. } /* (non-Javadoc) * @see DataElement#getCopy() */  
public DataElement getCopy() { // TODO Auto-generated method  
stub StringElement other=new StringElement(). other.str=str.  
return other. } public String toString(){ return str. } } 100Test 下载  
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