Array Store Exception

- Consider:

```
class Test {
    public static void main(String[] args)
    {
        try {
            Object x[] = new String[3];
            x[0] = new Integer(0);
        } catch (ArrayStoreException e) {
            System.out.println(e);
        }
    }
}
```

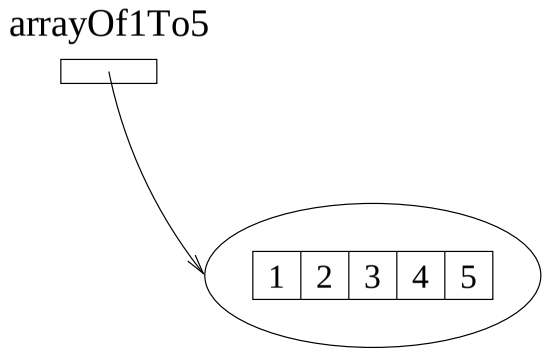
Array Store Exception (cont.)

- produces the output:

```
java.lang.ArrayStoreException
```

Example: `arrayOf1To5`

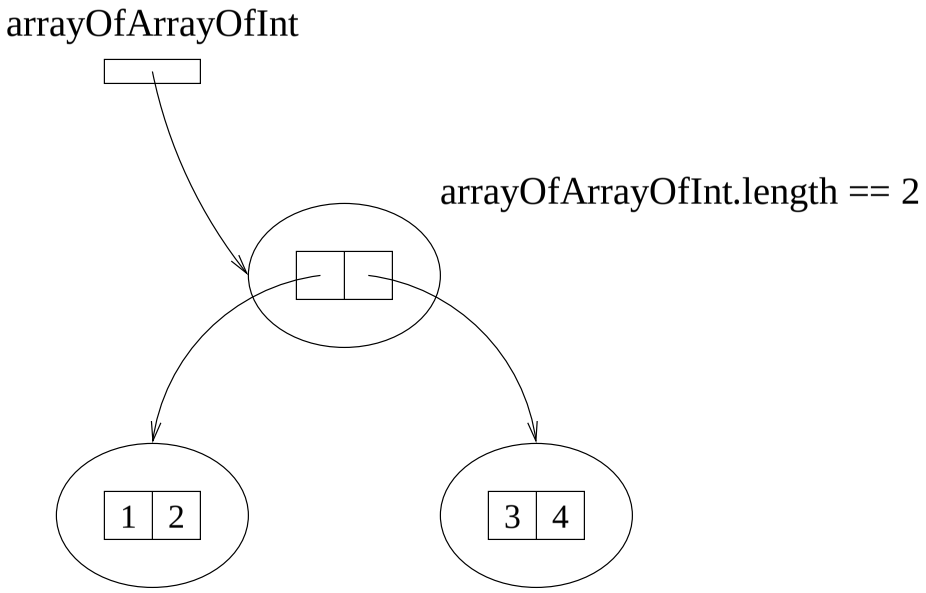
```
. . .
int[] arrayOf1To5 = { 1, 2, 3, 4, 5 };
. . .
```



arrayOf1To5.length == 5

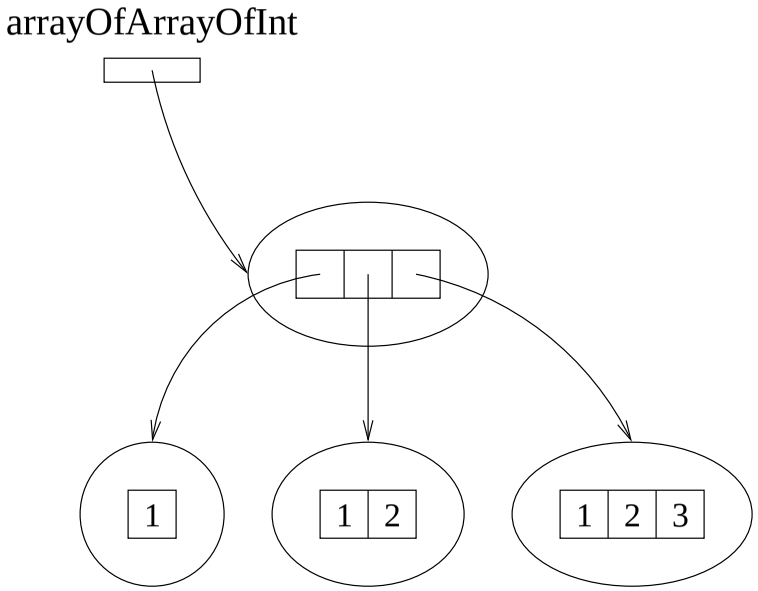
Example: `arrayOfArrayOfInt`

```
. . .
int[][] arrayOfArrayOfInt = { { 1, 2 }, { 3, 4 } };
. . .
```



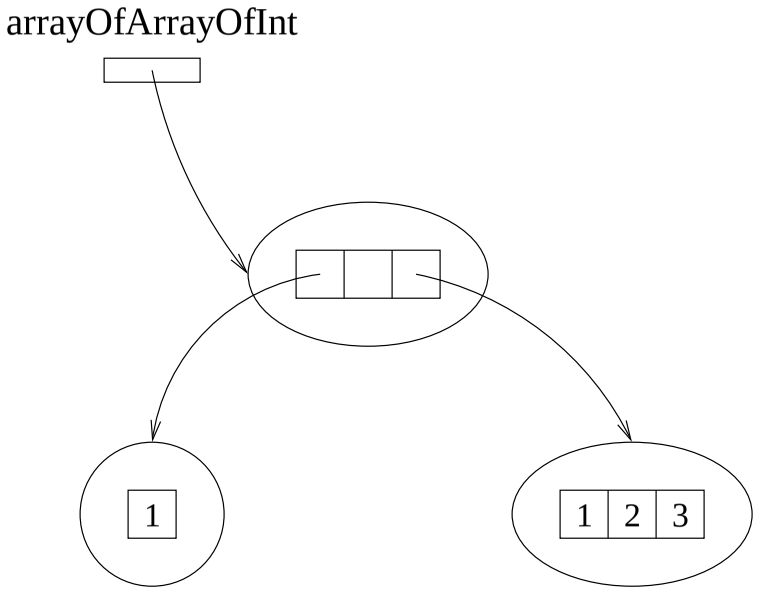
Example: `arrayOfArrayOfInt` (cont.)

```
. . .
int[][] arrayOfArrayOfInt = { { 1 },
                              { 1, 2 },
                              { 1, 2, 3 } };
. . .
```



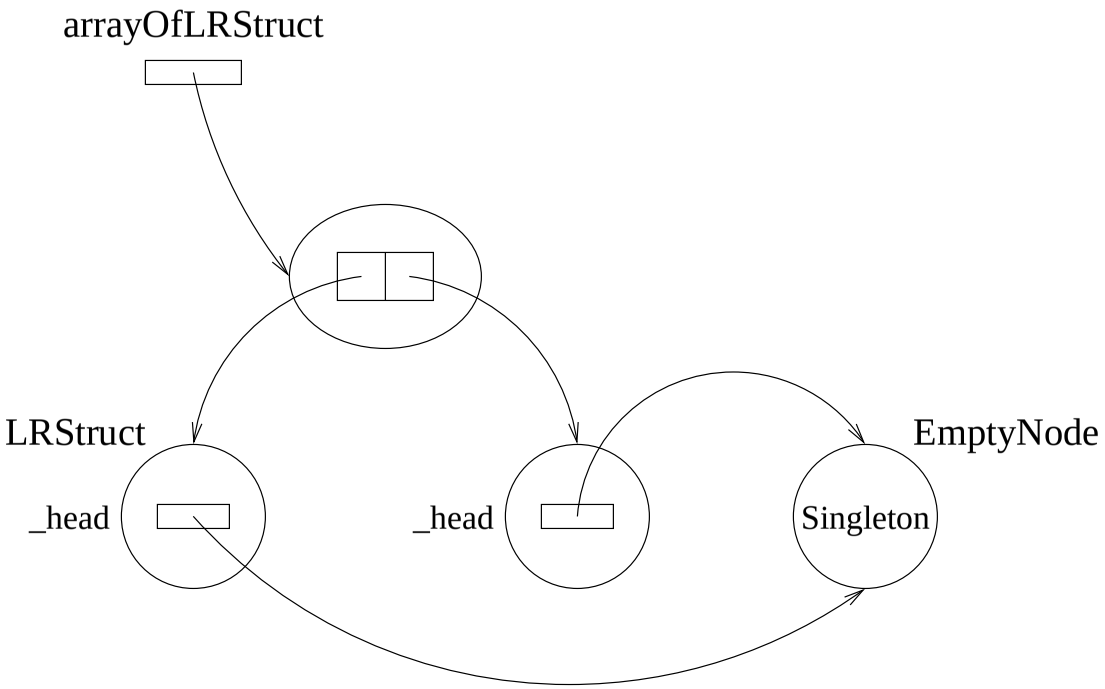
Example: `arrayOfArrayOfInt` (cont.)

```
. . .
int[][] arrayOfArrayOfInt = { { 1 },
                              null,
                              { 1, 2, 3 } };
. . .
```



Example: `arrayOfLRStruct`

```
. . .
LRStruct[] arrayOfLRStruct = { new LRStruct(),
                               new LRStruct() };
. . .
```



ArrayContainer

```
public class ArrayContainer implements IContainer {
    private int             _firstEmptyPair = 0;
    private KeyValuePair[] _pairs = new KeyValuePair[1];

    public Object find(Object key)
    {
        int i;

        for (i = 0; i < _firstEmptyPair; i++)
            if (_pairs[i].getKey().equals(key))
                return _pairs[i].getValue();

        return null;
    }
    . . .
```

ArrayContainer (cont.)

```
public Object remove(Object key)
{
    int i;

    for (i = 0; i < _firstEmptyPair; i++)
        if (_pairs[i].getKey().equals(key)) {
            Object value = _pairs[i].getValue();

            for (_firstEmptyPair--; i < _firstEmptyPair; i++)
                _pairs[i] = _pairs[i + 1];
            _pairs[i] = null;

            return value;
        }
    return null;
}
```

ArrayContainer (cont.)

```
public void insert(Object key, Object value)
{
    if (_firstEmptyPair == _pairs.length) {
        int i;

        KeyValuePair[] newPairs =
            new KeyValuePair[2*_pairs.length];

        for (i = 0; i < _pairs.length; i++)
            newPairs[i] = _pairs[i];

        _pairs = newPairs;
    }
    _pairs[_firstEmptyPair] = new KeyValuePair(key, value);
    _firstEmptyPair++;
}
```