

# Overview

- The Class `java.lang.Boolean`
- An Array-based Container
  - Unordered
  - Ordered

## The Class `java.lang.Boolean`

- Objects of type `Boolean` represent primitive values of type `boolean`.

```
public final class Boolean {  
    public static final Boolean TRUE = new Boolean(true);  
    public static final Boolean FALSE = new Boolean(false);  
    public Boolean(boolean value);  
    public Boolean(String s);  
    public String toString();  
    public boolean equals(Object obj);  
    public int hashCode();  
    public boolean booleanValue();  
    public static Boolean valueOf(String s);  
    public static boolean getBoolean(String name);  
}
```

## An Array-based Container

- What is the cost of insertion?

```
public void insert(Object key, Object value)
{
    if (_firstEmptyPair == _pairs.length) {
        int i;
        Pair[] newPairs = new Pair[2*_pairs.length];
        for (i = 0; i < _pairs.length; i++)
            newPairs[i] = _pairs[i];
        _pairs = newPairs;
    }
    _pairs[_firstEmptyPair] = new Pair(key, value);
    _firstEmptyPair++;
}
```

## An Ordered Array-based Container

- What is the cost of finding the index?

```
private int findIndex(IOrdered key)
{
    int lo = -1;
    int hi = _firstEmptyKeyValuePair;
    while (lo + 1 != hi) {
        int mid = (lo + hi)/2;
        switch (_pairs[mid].getKey()).compare(key) {
            case IOrdered.EQUAL:    return mid;
            case IOrdered.GREATER:  hi = mid;    break;
            case IOrdered.LESS:     lo = mid;    break;
        }
    }
    return lo;
}
```