**package** arrayListNonGeneric;

**public** **class** MyArrayList {

**private** Object[] container;

**private** **int** numElements =0;

**public** MyArrayList(**int** initialSize)

{

container = **new** Object[initialSize];

}

**public** MyArrayList()

{

**this**(10);

}

**public** **int** size()

{

**return** numElements;

}

**public** **void** add(Object ob)

{

**if** (numElements >= container.length)

{

resize();

}

container[numElements++] = ob;

}

**public** Object get(**int** index)

{

**if** (index < 0 || index >= numElements)

**throw** **new** IndexOutOfBoundsException("Index out of bounds");

**return** container[index];

}

**private** **void** resize()

{

**int** currSize = container.length;

Object[] nextContainer = **new** Object[currSize\*2];

**for** (**int** i=0; i < numElements; i++)

nextContainer[i] = container[i];

container = nextContainer;

}

Object set(**int** index, Object ob)

{

**if** (index < 0 || index >= numElements)

**throw** **new** IndexOutOfBoundsException("Index out of bounds: "+ index);

Object replacedObject = container[index];

container[index] = ob;

**return** replacedObject;

}

// Inserts object at desired location

**void** add(**int** index, Object ob)

{

**if** (index < 0 || index > numElements)

**throw** **new** IndexOutOfBoundsException("Index out of bounds: "+ index);

add(ob); // This will increase our size by 1

// Shift objects to make room for the new addition

**for** (**int** i= numElements-1; i > index; i--)

{

container[i] = container[i-1];

}

container[index] = ob;

}

// For this to work, the objects need to implement equals

**int** indexOf(Object ob)

{

**for** (**int** i=0; i < numElements; i++)

{

**if** (ob.equals(container[i]))

**return** i;

}

**return** -1;

}

Object remove(**int** index)

{

**if** (index < 0 || index >= numElements)

**throw** **new** IndexOutOfBoundsException("Index out of bounds: "+ index);

// Shift everything down

Object removedObject = container[index];

**for** (**int** i= index; i < numElements-1; i++)

{

container[i] = container[i+1];

}

numElements -= 1;

**return** removedObject;

}

// for this to work, the objects need to implement equals

**boolean** remove (Object ob)

{

**int** index = indexOf(ob);

**if** (index < 0)

**return** **false**;

remove(index);

**return** **true**;

}

**public** String toString()

{

StringBuilder sb= **new** StringBuilder();

sb.append("[ ");

**for** (**int** i=0; i < numElements; i++)

{

sb.append(container[i].toString());

**if** (i < numElements-1)

sb.append(",");

}

sb.append(" ]");

**return** sb.toString();

}

}