

3/3 TEST TOPIC SHEET

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 - **INHERITENCE + POLYMORPHISM**

CLASS STRUCTURE

CLASS EXTENSION

2D ARRAYS

ARRAYLIST

A dynamically sized array which has methods attached to it by default

To Create A New arrayList:

```
ArrayList <String> arrList = new ArrayList <String>(100);  
//parentheses can often be ignored, default size is 10
```

Key Methods:

ADD

Adds value to end of arrayList, or at specified position which shifts all subsequent indices up by 1

```
listName.add(value);  
//adds parameter to end of arrayList  
listName.add(index, value);  
//adds value at specified index, shifts all other indexes up by 1
```

```
arrList.add("hi");  
//final value in arrList is now hi
```

```
arrList.add(0, "nick");  
//value at position 0 becomes nick  
//value @ pos 0 shifts to pos 1  
//value @ pos 1 shifts to pos 2, etc...
```

SET

Replaces value at specified position with new specified value

```
listName.set(index, value)  
//whatever is in position index has now been changed to the new value
```

```
arrList.set(0, "owen")  
//the value at position 0 becomes owen
```

GET

Return value at specified position

```
arrList.get(0);  
//returns value at position 0
```

REMOVE

Removes value at specified index, shifts all subsequent indexes down by 1

```
arrList.remove(1);
```

SORTING + SEARCHING

STATIC

RECURSION

INHERITENCE + POLYMORPHISM