

CS620c Creating an array of Objects

Joe Duffin

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Iontas Building Room 1.45

Email: Joseph.Duffin@nuim.ie

Exercise: Assuming that you have already written a **Square** class, draw box diagrams showing the creation of an array of 4 references of type **Square**. Draw boxes for each step.

How do you declare a variable of type Square [] and what does it store? Write the line of code then draw the picture.

Step 1 Draw the array reference box named (**myList**)

How do you create the memory boxes, each capable of storing the reference of a Square object? Write the line of code then draw the picture.

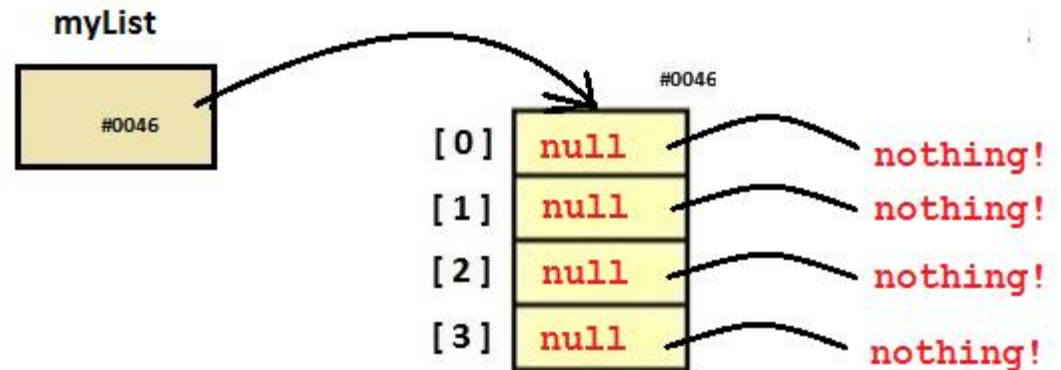
Step 2 Draw the effect of creating the array of references linked to the array reference box named (**myList**)

Solution

Step 1: **Square** [] myList;



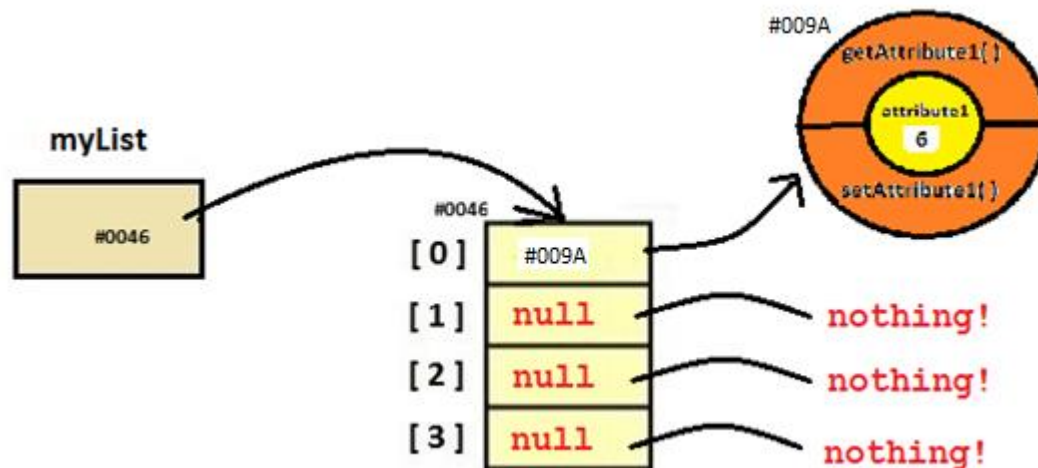
Step 2: `myList = new Square [4];`



What would you do if you wanted to **create 4 Square objects**, with each object linked to an individual element in the array we just created????????

Look at the Lesson 7 code , CircleArrayApplication

```
myList[0] = new Square(6); // one object  
  
// assuming that the constructor for the square class  
// takes a single number, here we are creating an  
// object and myList[0] will hold a link to this object
```



Steps in creating an array of objects of a particular Type or Class

Step 1: Declare an array reference variable of Type Square.

```
Square [ ] myList;
```

Step 2: using the **new** key word ask the compiler for a number or array elements of the appropriate type (Here, you are creating an array of boxes each capable of storing a reference to an object of Type Square).

```
myList = new Square [4]; // still no Square objects.
```

Step 3: Create an object and put its reference into one of the elements in the array of Square references.

```
myList[0] = new Square(5.2); // created your first Square object
```

Step 4: Access the newly created object through using the array element that stores its reference.

```
double value = myList[0].getLength();
```