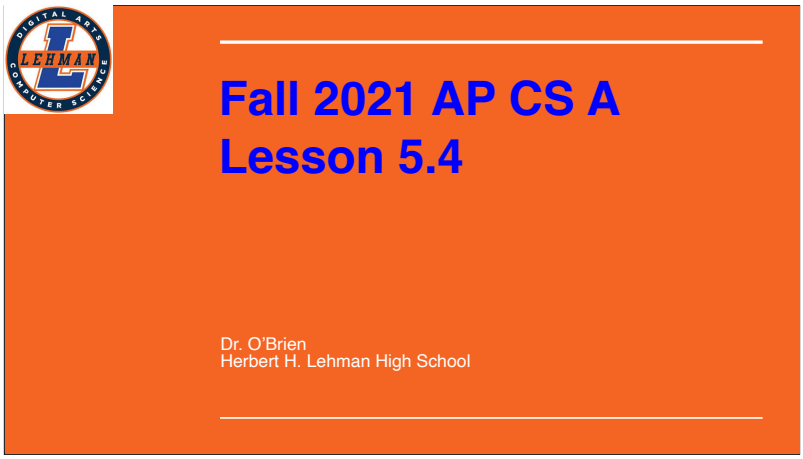


VOCAB:
nested loop

Do now

be sure to: Get out your **binder**. Copy **goal** and answer **do now** questions below. Show all work or write a complete sentence for each answer:

Consider the following code segment, which traverses two integer arrays of equal length. If any element of `arr1` is smaller than the corresponding (i.e., at the same index) element of `minArray`, the code segment should replace the element of `minArray` with the corresponding element of `arr1`. After the code segment executes, `minArray` should hold the smaller of the two elements originally found at the same indices in `arr1` and `minArray` and `arr1` should remain unchanged.

1. Why will this program not work as expected?
2. What could you change to make it work correctly?

```
for (int c = 0; c < arr1.length; c++)
{
  if (arr1[c] < minArray[c])
  {
    arr1[c] = minArray[c];
  }
  else
  {
    minArray[c] = arr1[c];
  }
}
```

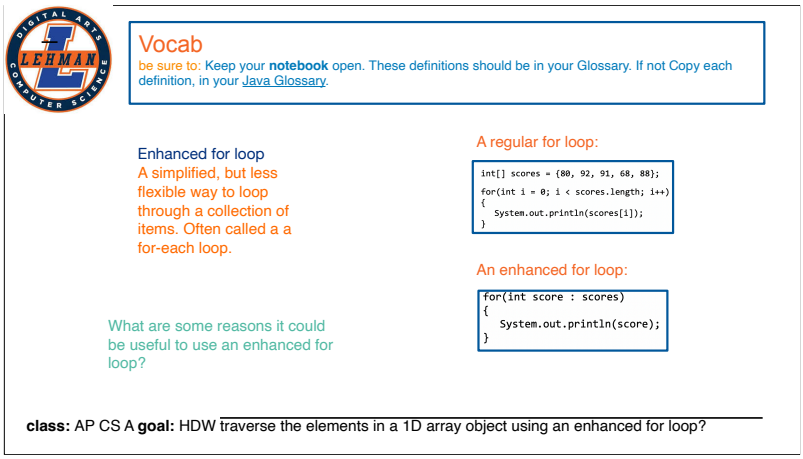
class: AP CS A **goal:** HDW traverse the elements in a 1D array object using an enhanced for loop?

1. The way the code is written, it actually replaces arr1 with the larger element.
2. Flip arround the 5th line minArray[c] = arr1[c]. Remove the else statement.

framing

- **what:** traverse the elements in a 1D array object using an enhanced for loop
- **why:** This provides us with a simplified structure for traversing a collection of items
- **where to:** Common algorithms using arrays

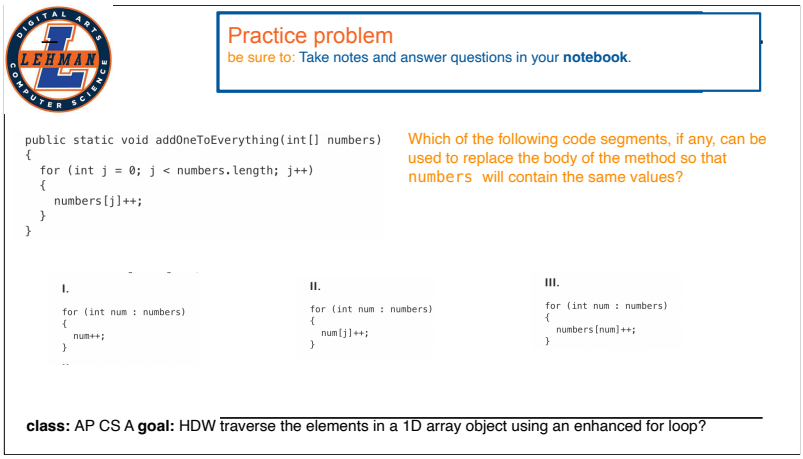
class: AP CS A **goal:** HDW traverse the elements in a 1D array object using an enhanced for loop?



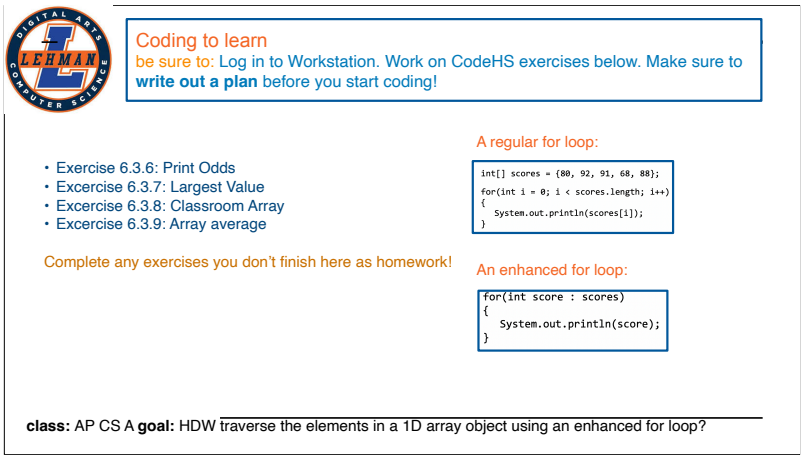
Inside the loop, the enhanced for loop variable is assigned a copy from the array without using the array index. Making changes to the enhanced for loop variable does not change the original value in the array.

+What are some reasons it could be useful to use an enhanced for loop? Enhanced for loops offer a simplified structure and are especially good when using nested loops. They tend to be easier to write

+What are some reasons to use a standard for loop? A for loop uses a counter variable which is sometimes needed in your loop. Since enhanced for loops only make a copy with no reference to the index, they are not optimal if you need to update values in the array



1. only. The num will return an element of the array, not an index, so II and III won't work.



SOLUTION CODE (REQUIRES CODEHS):

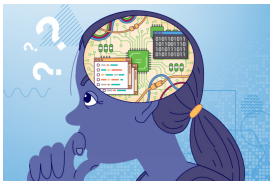
Exercise 6.3.6: Print Odds
Excercise 6.3.7: Largest Value
Excercise 6.3.8: Classroom Array
Excercise 6.3.9: Array average

Go through student solutions at the end of class.

Reflection: Thinking about thinking

be sure to: Answer each question below with a complete sentence.

1. What are the advantages of using an enhanced loop?
2. When would a standard for loop be a better choice?



class: AP CS A **goal:** HDW traverse the elements in a 1D array object using an enhanced for loop?

+What are the advantages of using an enhanced loop?
Enhanced for loops offer a simplified structure and are especially good when using nested loops.
+When would a standard for loop be a better choice?
When the counter variable is needed or if you are looking at updating values in your array, you need to use a for loop.