

# AP<sup>®</sup> COMPUTER SCIENCE A 2017 SCORING GUIDELINES

## Question 3: PhraseEditor

<b>Part (a)</b>	<code>replaceNthOccurrence</code>	<b>5 points</b>
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**Intent:** *Replace the  $n$ th occurrence of a given string with a given replacement*

- +1 Calls `findNthOccurrence` to find the index of the  $n$ th occurrence
- +1 Preserves `currentPhrase` only if  $n$ th occurrence does not exist
- +1 Identifies components of `currentPhrase` to retain (uses `substring` to extract before/after)
- +1 Creates replacement string using identified components and `repl`
- +1 Assigns replacement string to instance variable (`currentPhrase`)

<b>Part (b)</b>	<code>findLastOccurrence</code>	<b>4 points</b>
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**Intent:** *Return the index of the last occurrence of a given string*

- +1 Calls `findNthOccurrence` to find the index of the  $n$ th occurrence
- +1 Increments (or decrements) the value used as  $n$  when finding  $n$ th occurrence
- +1 Returns the index of the last occurrence, if it exists
- +1 Returns -1 only when no occurrences exist

<b>Question-Specific Penalties</b>
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- 1 (q) Uses `currentPhrase.findNthOccurrence`
- 2 (r) Confused identifier instead of `currentPhrase`

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## Question 3: Scoring Notes

<b>Part (a)</b> <code>replaceNthOccurrence</code>			<b>5 points</b>
Points	Rubric Criteria	Responses earn the point if they ...	Responses will not earn the point if they ...
+1	Calls <code>findNthOccurrence</code> to find the index of the <code>n</code> th occurrence	<ul style="list-style-type: none"> <li>do not use the result of calling <code>findNthOccurrence</code></li> </ul>	
+1	Preserves <code>currentPhrase</code> only if <code>n</code> th occurrence does not exist		<ul style="list-style-type: none"> <li>fail to use a conditional</li> </ul>
+1	Identifies components of <code>currentPhrase</code> to retain (uses <code>substring</code> to extract before/after)	<ul style="list-style-type: none"> <li>identify start and end of substring to be replaced</li> </ul>	
+1	Creates replacement string using identified components and <code>repl</code>		<ul style="list-style-type: none"> <li>create a replacement string that is out of order</li> </ul>
+1	Assigns replacement string to instance variable ( <code>currentPhrase</code> )		
<b>Part (b)</b> <code>findLastOccurrence</code>			<b>4 points</b>
Points	Rubric Criteria	Responses earn the point if they ...	Responses will not earn the point if they ...
+1	Calls <code>findNthOccurrence</code> to find the index of the <code>n</code> th occurrence	<ul style="list-style-type: none"> <li>do not use the result of calling <code>findNthOccurrence</code></li> </ul>	<ul style="list-style-type: none"> <li><code>return currentPhrase.lastIndexOf(str);</code></li> <li>call <code>findNthOccurrence</code> with an integer parameter of 0</li> </ul>
+1	Increments (or decrements) the value used as <code>n</code> when finding <code>n</code> th occurrence	<ul style="list-style-type: none"> <li><code>return currentPhrase.lastIndexOf(str);</code></li> <li>advance through <code>currentPhrase</code> searching for <code>n</code>th occurrence of <code>str</code></li> </ul>	
+1	Returns the index of the last occurrence, if it exists	<ul style="list-style-type: none"> <li><code>return currentPhrase.lastIndexOf(str);</code></li> <li>compute the correct value to be returned in all cases, but no return statement exists for any case</li> </ul>	<ul style="list-style-type: none"> <li>shorten string being searched</li> <li>always return in first iteration of the loop</li> </ul>
+1	Returns -1 only when no occurrences exist	<ul style="list-style-type: none"> <li><code>return currentPhrase.lastIndexOf(str);</code></li> </ul>	<ul style="list-style-type: none"> <li>compute the correct value to be returned in all cases, but no return statement exists for any case</li> <li>always return in first iteration of the loop</li> </ul>