



链滴

# [每日 LeetCode] 832. Flipping an Image

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来源网站: 链滴

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<p>Description:</p>

<p>Given a binary matrix <code>A</code>, we want to flip the image horizontally, then invert it, and return the resulting image.</p>

<p>To flip an image horizontally means that each row of the image is reversed.&nbsp;For example, flipping&nbsp;<code>[1, 1, 0]</code>&nbsp;horizontally results in&nbsp;<code>[0, 1, 1]</code>.</p>

<p>To invert an image means&nbsp;that each <code>0</code> is replaced by <code>1</code>, and each <code>1</code> is replaced by <code>0</code>.&nbsp;For example, inverting&nbsp;<code>[0, 1, 1]</code>&nbsp;results in&nbsp;<code>[1, 0, 0]</code>.</p>

<p><strong>Example 1:</strong></p>

<pre><code class="highlight-chroma"><span class="highlight-line"><span class="highlight-cl">Input: [[1,1,0],[1,0,1],[0,0,0]]</span></span></code>

</span></span><span class="highlight-line"><span class="highlight-cl">Output: [[1,0,0],[0,0],[1,1,1]]</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">Explanation: First reverse each row: [[0,1,1],[1,0,1],[0,0,0]].</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">Then, invert the image: [[1,0,0],[0,1,0],[1,1,1]]</span></span>

</span></span></code></pre>

<p><strong>Example 2:</strong></p>

<pre><code class="highlight-chroma"><span class="highlight-line"><span class="highlight-cl">Input: [[1,1,0,0],[1,0,0,1],[0,1,1,1],[1,0,1,0]]</span></span></code>

</span></span><span class="highlight-line"><span class="highlight-cl">Output: [[1,1,0,0],[1,1,1,0],[0,0,0,1],[1,0,1,0]]</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">Explanation: First reverse each row: [[0,0,1,1],[1,0,0,1],[1,1,1,0],[0,1,0,1]].</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">Then invert the image: [[1,1,0,0],[0,1,1,0],[0,0,0,1],[1,0,1,0]]</span></span>

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<p><strong>Notes:</strong></p>

<ul>

<li><code>1 &lt;= A.length = A[0].length &lt;= 20</code></li>

<li><code>0 &lt;= A[i][j]&nbsp;&lt;=&nbsp;1</code></li>

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<p>思路：本题要求图像的翻转，意思是将二维数组中的数组先水平翻转，然后再对每个元素取反。++ 中有数组翻转的函数 reverse，直接调用即可。</p>

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<p>C++ 代码</p>

<pre><code class="highlight-chroma"><span class="highlight-line"><span class="highlight-cl">class Solution {</span></span></code>

</span></span><span class="highlight-line"><span class="highlight-cl">public:</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">vector&lt;vector&lt;int&gt;&gt; flipAndInvertImage(vector&lt;vector&lt;int&gt;&gt;& A) {</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">for (int i = 0; i &lt; A.size(); i++)</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">{</span></span><span class="highlight-line"><span class="highlight-cl">reverse(A[i].begin(),A[i].end());</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">for (int j = j &lt; A[i].size(); j++)</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">{</span></span><span class="highlight-line"><span class="highlight-cl">A[i][j] =</span></span>

</span></span><span class="highlight-line"><span class="highlight-cl">- A[i][j];</span></span></code>

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</span></span><span class="highlight-line"><span class="highlight-cl">        }  
</span></span><span class="highlight-line"><span class="highlight-cl">    }  
</span></span><span class="highlight-line"><span class="highlight-cl">    return A;  
</span></span><span class="highlight-line"><span class="highlight-cl">    }  
</span></span><span class="highlight-line"><span class="highlight-cl">};  
</span></span></code></pre>
```

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<p>运行时间: 12ms</p>

<p>运行内存: 9.4M</p>