

AP[®] COMPUTER SCIENCE A

2012 SCORING GUIDELINES

Question 4: GrayImage

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| Part (a) | <code>countWhitePixels</code> | 4 points |
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Intent: *Return the number of white pixels in the image*

- +1 Accesses all entries in `pixelValues` (*no bounds errors*)
- +1 Compares an entry of array with `WHITE` or with 255 in context of iteration
- +1 Initializes and increments a counter
- +1 Returns correct count of number of white pixels in `pixelValues`

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|-----------------|---------------------------|-----------------|
| Part (b) | <code>processImage</code> | 5 points |
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Intent: *Process elements of `pixelValues` and apply specified formula*

- +1 Accesses all necessary elements in at least one row or one column of `pixelValues`
- +1 Accesses all necessary elements of `pixelValues` (*no bounds errors*)
- +1 Decrements element at index `[a][b]` by the original value found in element at index `[a+2][b+2]`
- +1 Modifies all and only appropriate elements of `pixelValues`
(*changes must not affect last two rows and columns*)
- +1 Assigns `BLACK` or 0 to elements of `pixelValues` that would otherwise have a value less than `BLACK` (negative value)

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| Question-Specific Penalties |
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- 1 (z) Attempts to return a value from `processImage`