Image Processing

Assignment setter: Dr Boguslaw Obara
Student: gkgf37

General Requirements:
The assignment has been made to demonstrate that students do understand the principles of Image Processing

Measuremens:
- Mean Squared Error: compares two images by providing a quantitative score to determine the level of error or distortion between them.
- Structural Similarity Index: an image quality metric that assesses the visual impact of three characteristics of an image: luminance, contrast and structure.
- Code Quality Rating: 10.0 - ((float(5 * error + warning + refactor + convention) / statement) * 10)

Tasks	Comments	Marks[\%]
Erosion (25%):	A grayscale erosion with a square structuring element a size 5x5 pixels was implemented. Mean Squared Error: [0.]. Structural Similarity Index: [1.]	[100]
Dilation (25%):	A grayscale dilation with a square structuring element a size 5x5 pixels was implemented. Mean Squared Error: [0.]. Structural Similarity Index: [1.]	[100]
Opening (15%):	A grayscale opening with a square structuring element a size 5x5 pixels was implemented. Mean Squared Error: [0.]. Structural Similarity Index: [1.]	[100]
Closing (15%):	A grayscale closing with a square structuring element a size 5x5 pixels was implemented. Mean Squared Error: [0.]. Structural Similarity Index: [1.]	[100]
Code Quality (20%):	Your code has been rated at 6.235	[62]
WEIGHTED SUM		**[92]**

code quality:

[['************* Module erosion', 'ip/gkgf37/erosion.py:9: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:11: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:13: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:14: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:15: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:16: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:17: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:18: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:19: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:20: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:21: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:22: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:23: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:24: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:25: [W0312(mixed-indentation),] Found

indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:26: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:27: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:28: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:29: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:30: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:31: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:32: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/erosion.py:33: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', "ip/gkgf37/erosion.py:11: [W0621(redefined-outer-name), erosion-function] Redefining name 'img_erode' from outer scope (line 35)", '---', 'Your code has been rated at 4.55/10 (previous run: 9.57/10, -5.03)'], ['************* Module dilation', 'ip/gkgf37/dilation.py:9: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:11: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:12: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:13: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:14: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:15: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:16: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:17: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:18: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:19: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:20: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:21: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:22: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:23: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:24: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:25: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:26: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:27: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:28: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:29: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:30: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:31: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/dilation.py:32: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', "ip/gkgf37/dilation.py:11: [W0621(redefined-outer-name), dilationfunction] Redefining name 'img_dilate' from outer scope (line 34)", '---', 'Your code has been rated at 4.55/10 (previous run: 9.56/10, -5.01)'], ['************* Module opening', 'ip/gkgf37/opening.py:7: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/opening.py:8: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/opening.py:9: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/opening.py:10: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/opening.py:11: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', '---', 'Your code has been rated at 7.92/10 (previous run: 9.43/10, -1.51)'], ['************* Module closing', 'ip/gkgf37/closing.py:7: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/closing.py:8: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/closing.py:9: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/closing.py:10: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', 'ip/gkgf37/closing.py:11: [W0312(mixed-indentation),] Found indentation with tabs instead of spaces', '---', 'Your code has been rated at 7.92/10 (previous run: 9.43/10, -1.51)']]