

Name:	Date:	Period:
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Lab11: Sobel Edge Detection

- Attach a code printout.
- Attach a PPM image with original pixels in grayscale and edge pixels in red.
 - Find an (appropriate) image, convert to PPM, smaller is better.
 - Input PPM file (plain text), convert RGB to grayscale intensity, output PGM.
 - Input PGM file, smooth (weighted average), output another PGM file.
 - Sobel edge detection, try different threshold values for G . Ignore boundary pixels.

• `convert -compress None yourfile.jpg yourfile.ppm`

• $INTENSITY = 0.30*RED + 0.59*GREEN + 0.11*BLUE$

• Gaussian smoothing mask:

1	2	1
2	4	2
1	2	1

• Horizontal gradient G_x mask:

-1	0	1
-2	0	2
-1	0	1

• Vertical gradient G_y mask:

1	2	1
0	0	0
-1	-2	-1

• $G = |G_x| + |G_y|$

Official Use Only

Header:	Name	Correct Date	Program Description
Style:	Comments	Variable Names	Modular
Data Structures:	Obvious	General	Lean
Algorithm:	Clear	Correct	Efficient
Scoring:	Raw _____	Late _____	Total _____