Name:	Date:	Period:

Lab12: Canny Edge Detection

- Attach a code printout.
- Attach a PPM image with original pixels in grayscale and edge pixels in red.
- Calculate values for G as in the Sobel method, then...
  - Use atan2(Gy,Gx) and convert from radians to degrees (as shown here).
  - Round to the nearest 45-degree angle:

135	90	45
180		0
225	270	315

  - This angle is normal to the edge. Crosses the edge on a perpendicular.
  - The direction of the edge is found by adding or subtracting 90-degrees.
- Two thresholds: HIGH and LOW
  - Identify those (few) pixels whose G meets a HIGH threshold.
  - Floodfill from these pixels in the direction of the edge. Recursion.
  - Recalculate edge direction at each pixel. The edge may turn.
  - Stop if a pixel fails to meet a LOW threshold, or if you reach a boundary pixel.
- Nonmaximum supression
  - For all identified pixels, check the two neighboring pixels in the direction normal to the edge and de-identify the pixel if either neighbor has a higher G value.
  - Crayon ⇒ Pencil

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 _____