Projects

#2

Extracting pixel values from grayscale images

(a) Write a function ***v=pixVal4e(f,r,c),*** where ***f*** is a grayscale image anda ***r*** and ***c*** are scalars corresponding respectively to a row and column number in ***f***. Output ***v*** is the pixel value ***f(r,c);***

(b) Test your function by reading the image ***girl.tif*** and obtaining the pixel values at the origin and at the middle of the image. Display the values on the screen (the image need not be displayed);

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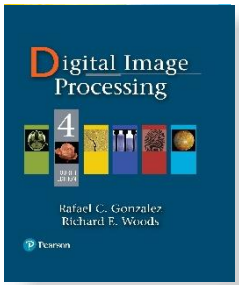
(c) Write a function ***[r,c,v]=cursorValues4e(f)*** that displays image ***f***, displays a mouse-controlled cursor over it and, when the mouse left button is clicked, outputs the row/column coordinates ***(r,c)*** and the value ***v*** of the pixel at those coordinates. The function should close the display of ***f***. The file of image ***f*** and any previously opened displays should not be closed by this function.



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HINT: Use the function from (a) to obtain the pixel value and, if you are using MATLAB, you can use the function ***ginput*** to display the cursor and get its coordinates.

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floor → Round towards minus infinity. floor(X) rounds the elements of X to the nearest integers towards minus infinity.

disp(X) → displays array X without printing the array name or additional description information such as the size and class name.

[c, r] = ***ginput(N)*** gets N points from the current axes and returns the c- and r-coordinates in length N vectors c and r. The cursor can be positioned using a mouse. Data points are entered by pressing a mouse button or any key on the keyboard except carriage return, which terminates the input before N points are entered; Note that ***c*** and ***r*** are output as floating point numbers

round → rounds towards nearest decimal or integer. ***round(X)*** rounds each element of X to the nearest integer.

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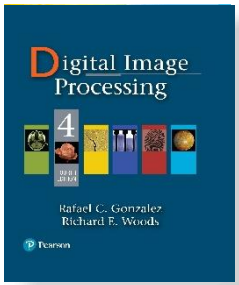
close(H) → closes the window with handle H. ***close***, by itself, closes the current figure window.

gcf ➔ Get handle to current figure. ***H = gcf*** returns the handle of the current figure.

The current figure is the window into which graphics commands like ***PLOT, IMSHOW, TITLE, SURF, etc.*** will draw.



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O que entregar?

O arquivo m (comentado);

Print dos valores/imagens solicitados no projeto ;