QUT Centre for Robotics

EGB339 - Week 2

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QUT Centre for Robotics

Welcome to Week 2

- Matlab Grader invites: check your spam and Clutter folder!
- Team-based assessments: assignments will come online by the end of the week
- Individual assessments: first assignment will come online by the end of the week
- Lecture Videos: next set online tomorrow morning
- Computer Labs and Tutorials started this week! On-campus, and via Zoom.

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Do not publish your assignment code on github!

This is academic misconduct!

- Making the solutions of assignments available to other students is a form of academic misconduct.
- Do not use public repositories!
- Use private repositories instead.

- Hint: Do not use publicly available code either.
  - This would be serious misconduct.
  - It is easy for us to spot this.

Questions?

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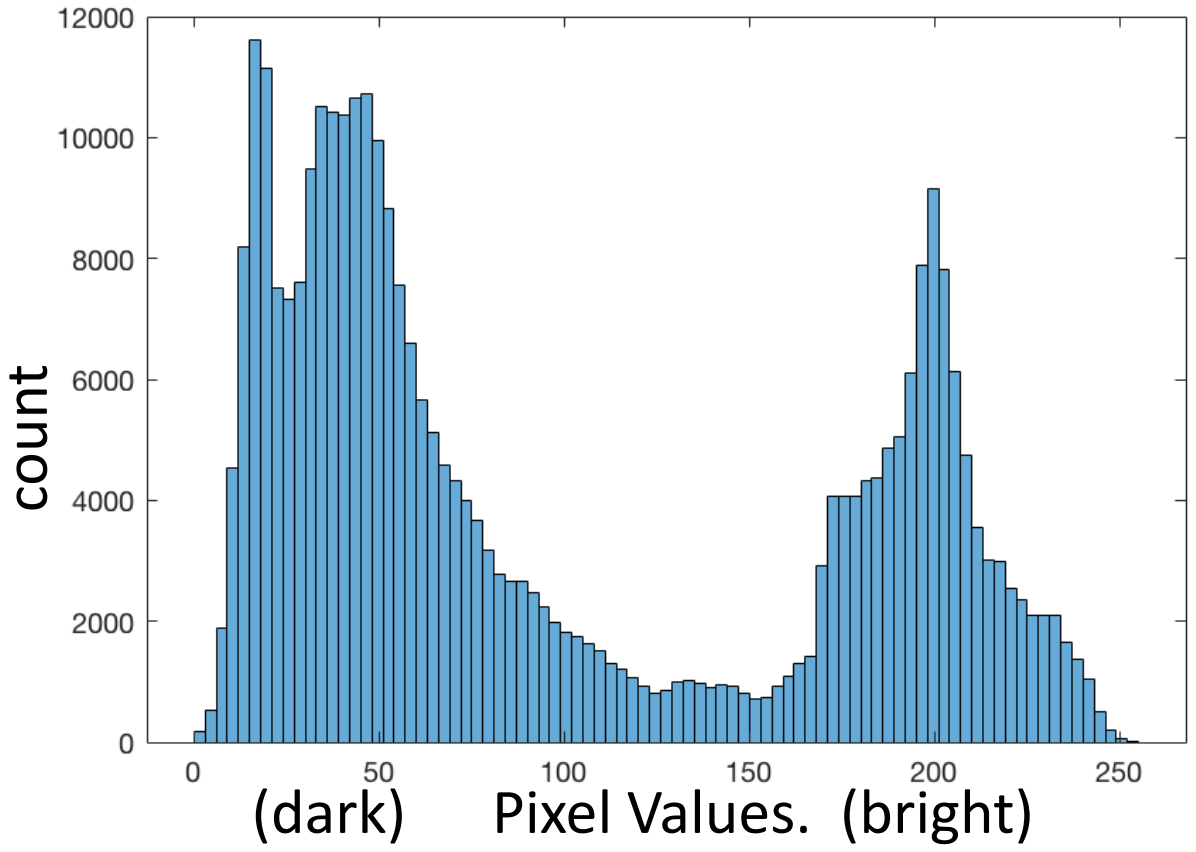
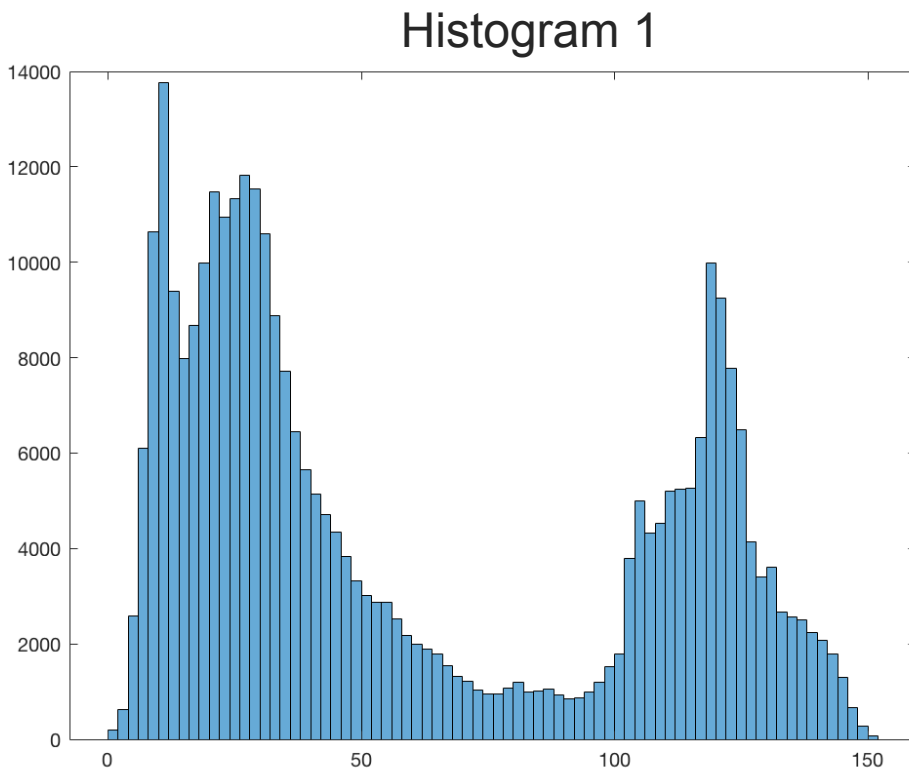
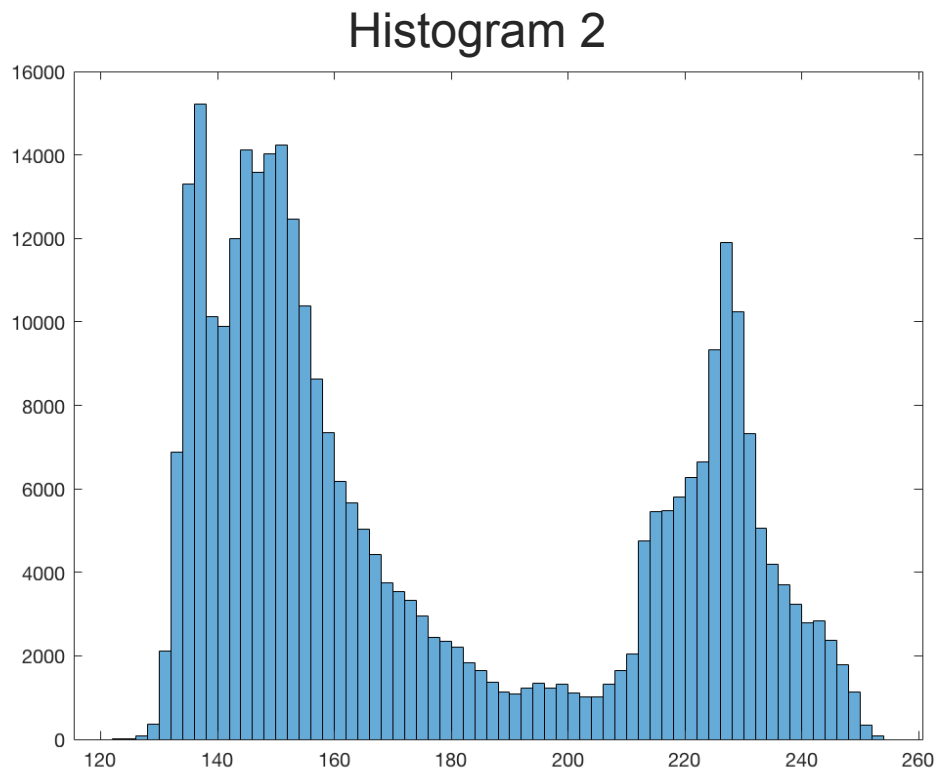
Histograms and Thresholding



Quiz: Which Image Corresponds to which Histogram?





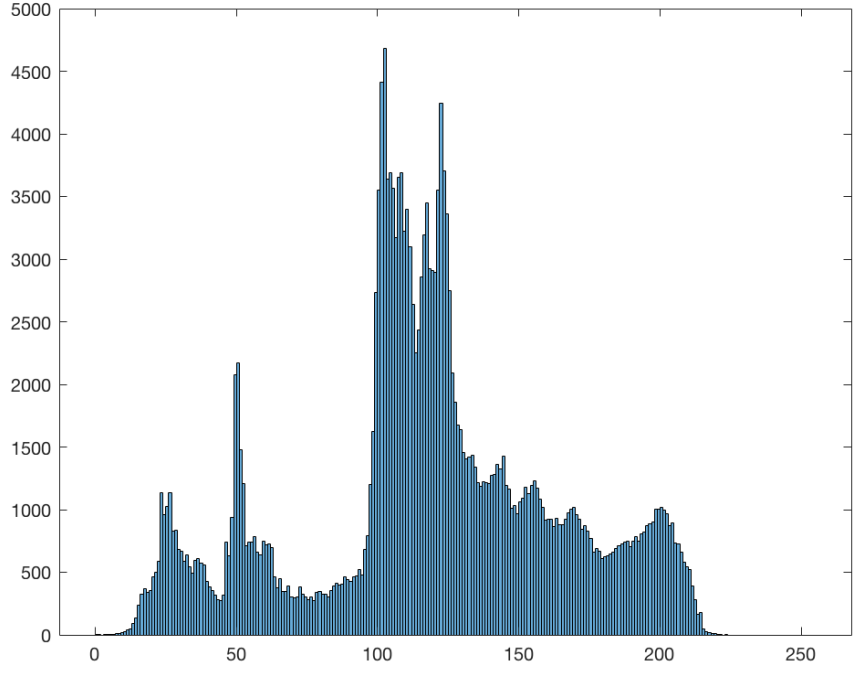

BLACKWOODS
Kooroo

Quiz: Which Image Corresponds to which Histogram?

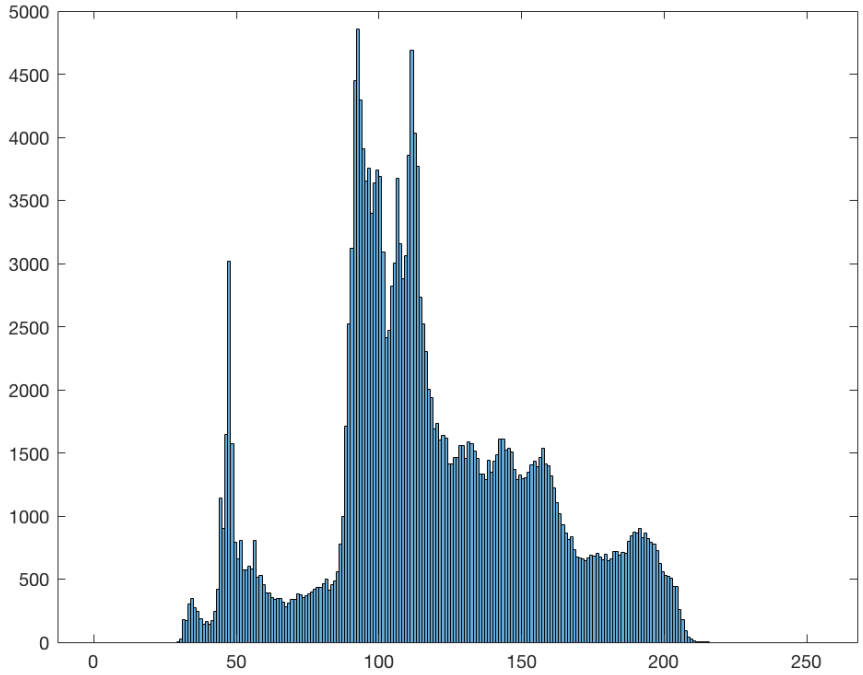
Image A

Image B

Histogram 1

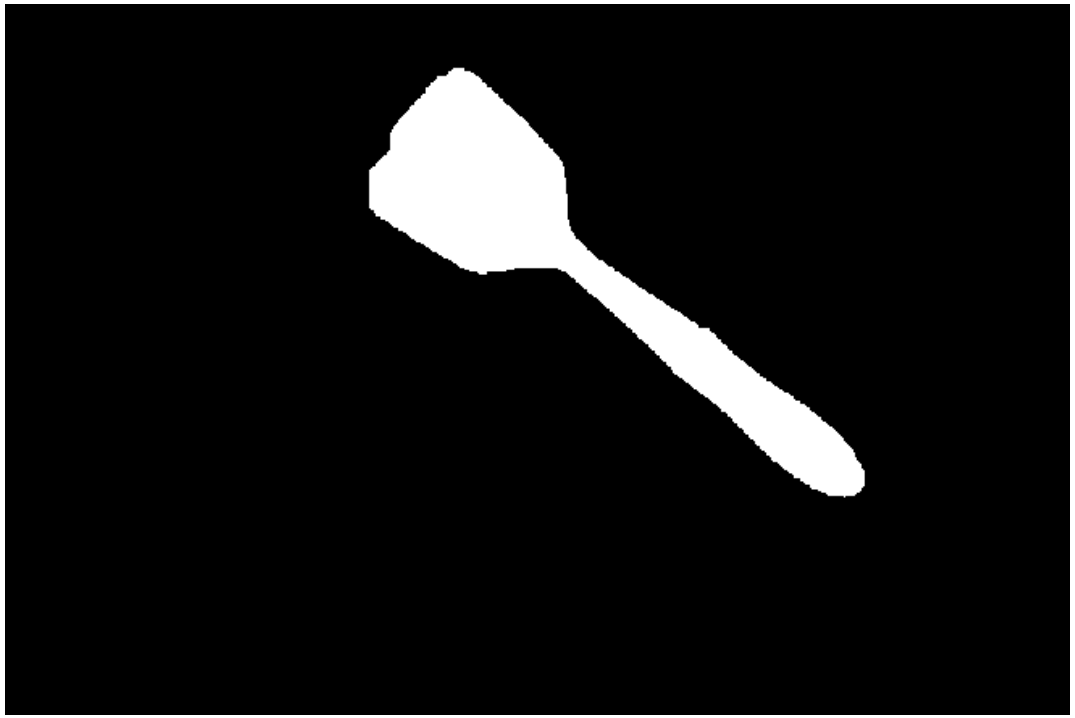


Histogram 2



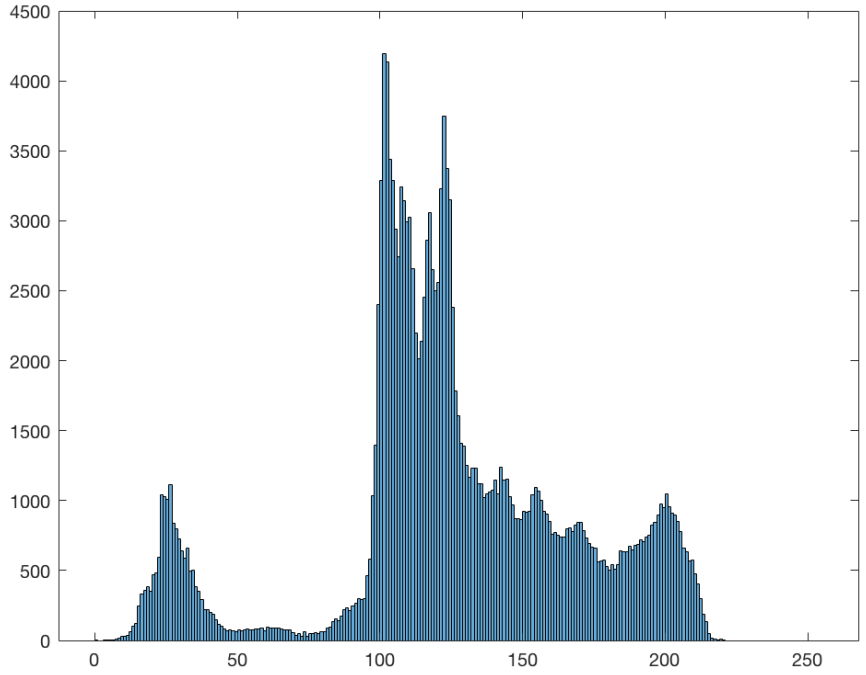
Coding Example

Thresholding



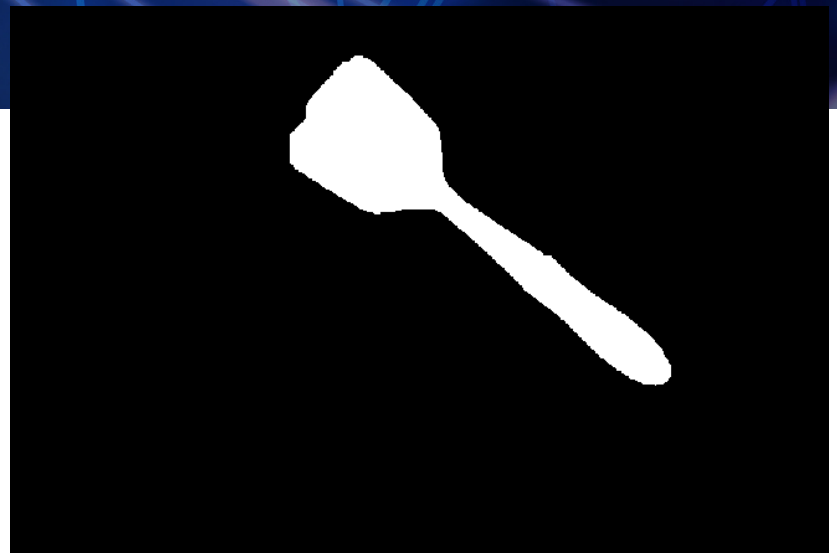
Thresholding

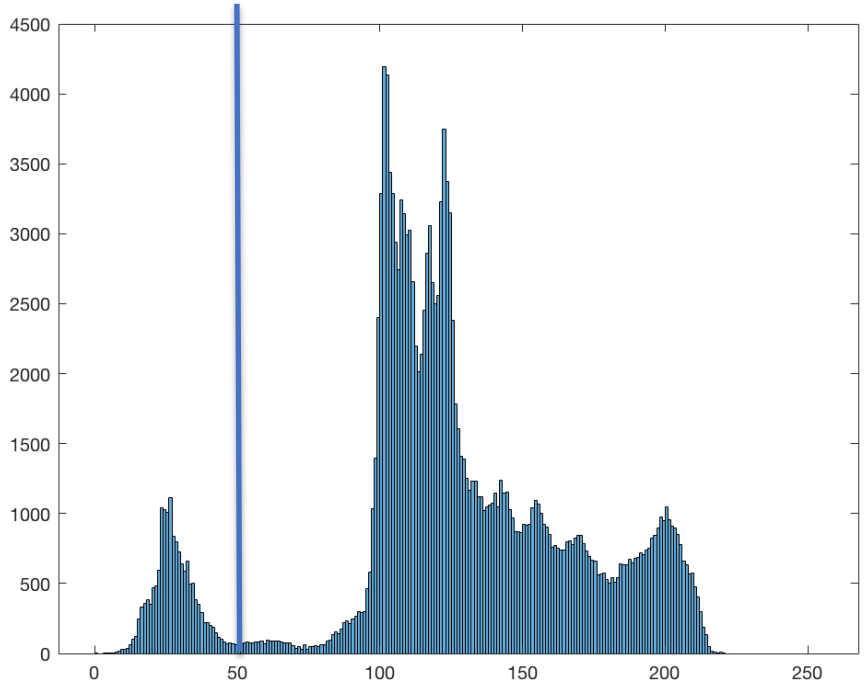
- Histograms can help you choose a threshold



Thresholding

- Histograms can help you choose a threshold





Thresholding

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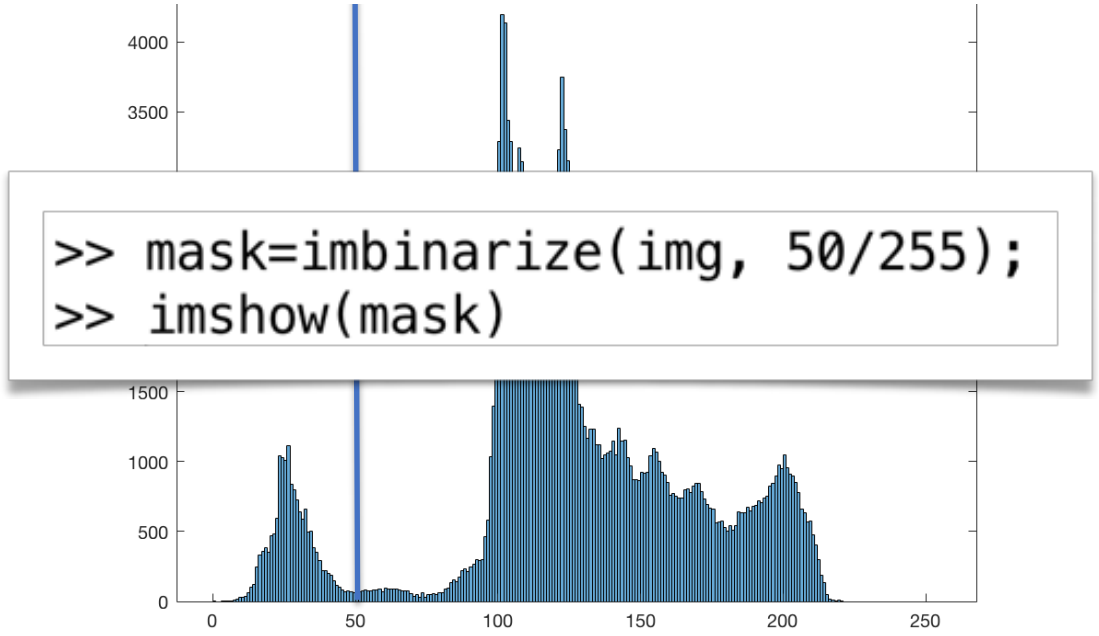

Coding Example

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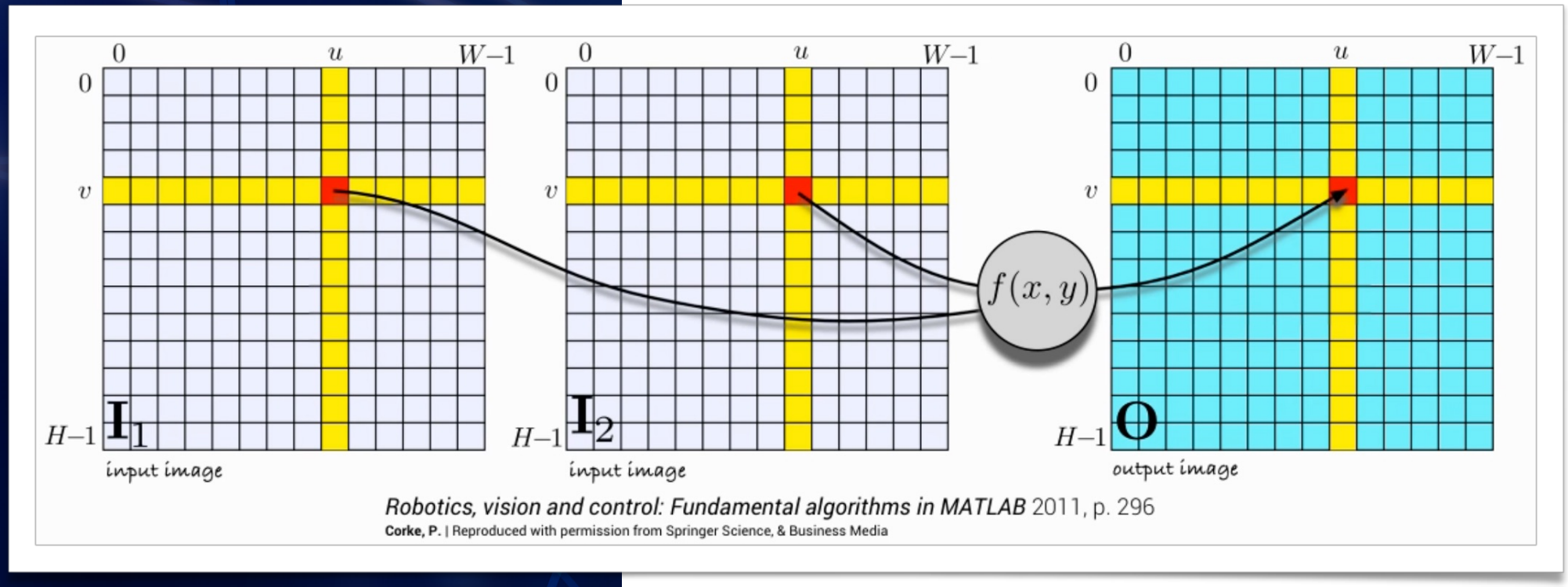
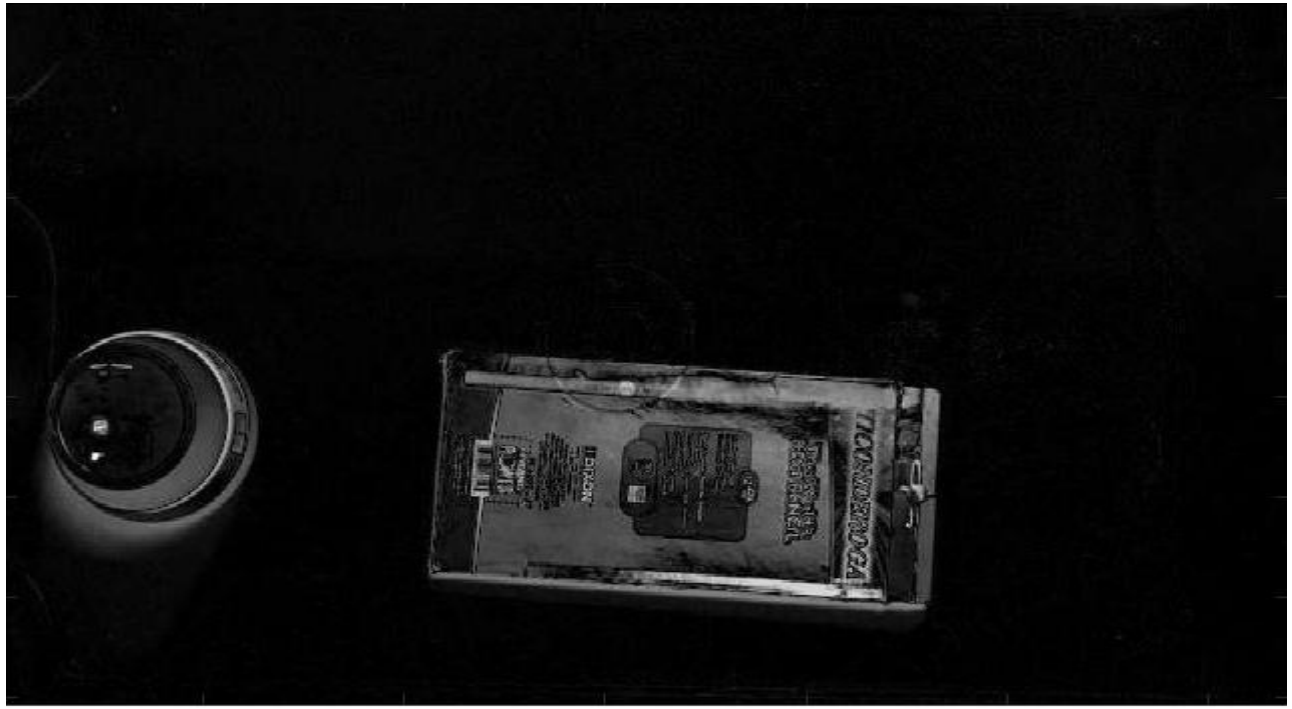
Diadic Processing

- Each output pixel is a function of two corresponding input pixels
- Same function is applied to all pixels
- Images must be of the same size



Robotics, vision and control: Fundamental algorithms in MATLAB 2011, p. 296

Image Subtraction



Quiz

```
>> img1 = imread('a.png');
>> img2 = imread('b.png');

% img1 and img2 are of type uint8

% Which method of calculating the difference between both images is correct?

% Option a) diff = img1 – img2;
% Option b) diff = abs(img1 – img2);
% Option c) diff = abs(double(img1) – double(img2));
% Option d) diff = double(img1) – double(img2);
```

Coding Example

Questions?