Tutorial

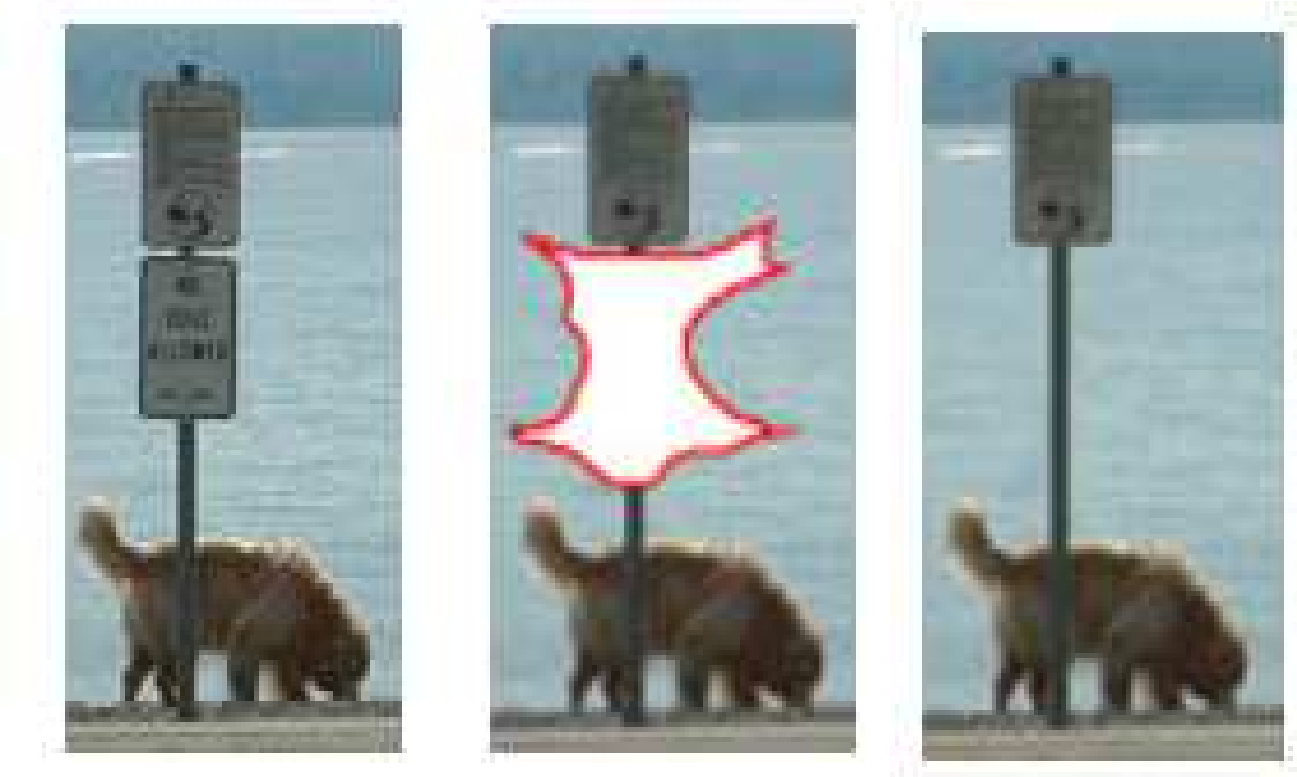
A2 is out, its called Inpainting

a

b

Tutorial

A2 is out, its called Inpainting



Tutorial

A2 is out, its called Inpainting

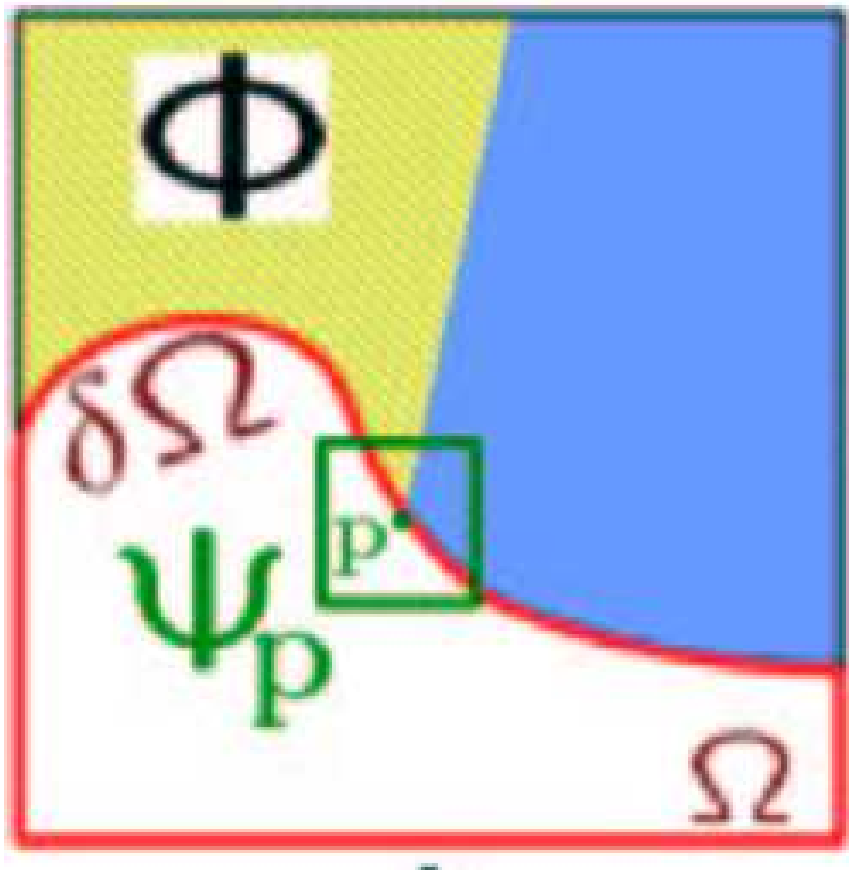
How do you think this can be done?

- Due to popular demand, there's no new GUI to develop!
- Helper code has been compiled in:
  - Visual Studio 2008
  - MacOS
  - Linux (on CDF)
- You'll read and understand an actual Computer Science paper!

Inpainting

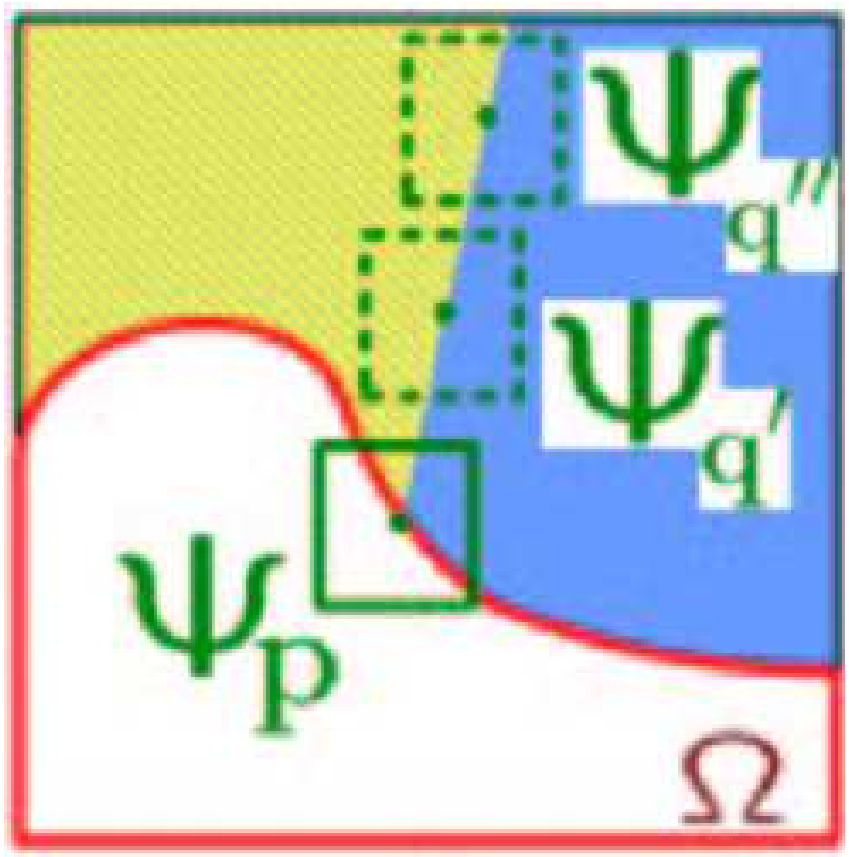
From the target region (region to inpaint)

Inpainting



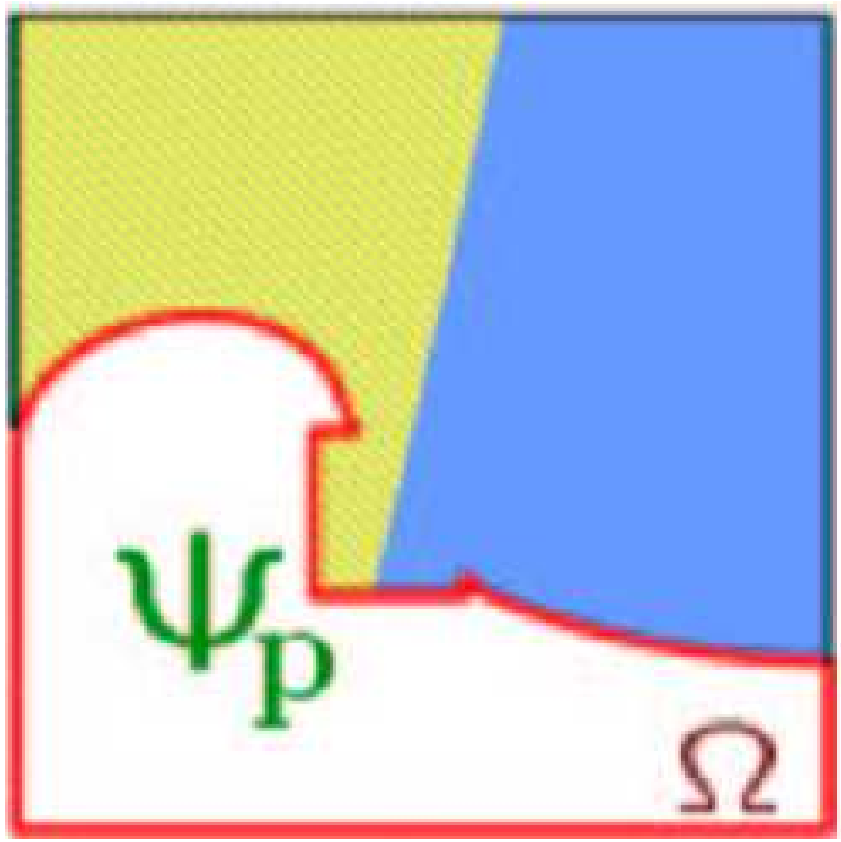
Choose an initial patch: the ordering is crucial!

Inpainting: Determine a region to inpaint



Find a good source region for the target patch

Inpainting: Determine a region to inpaint



Paste the patch

Go to the assignment description on-line

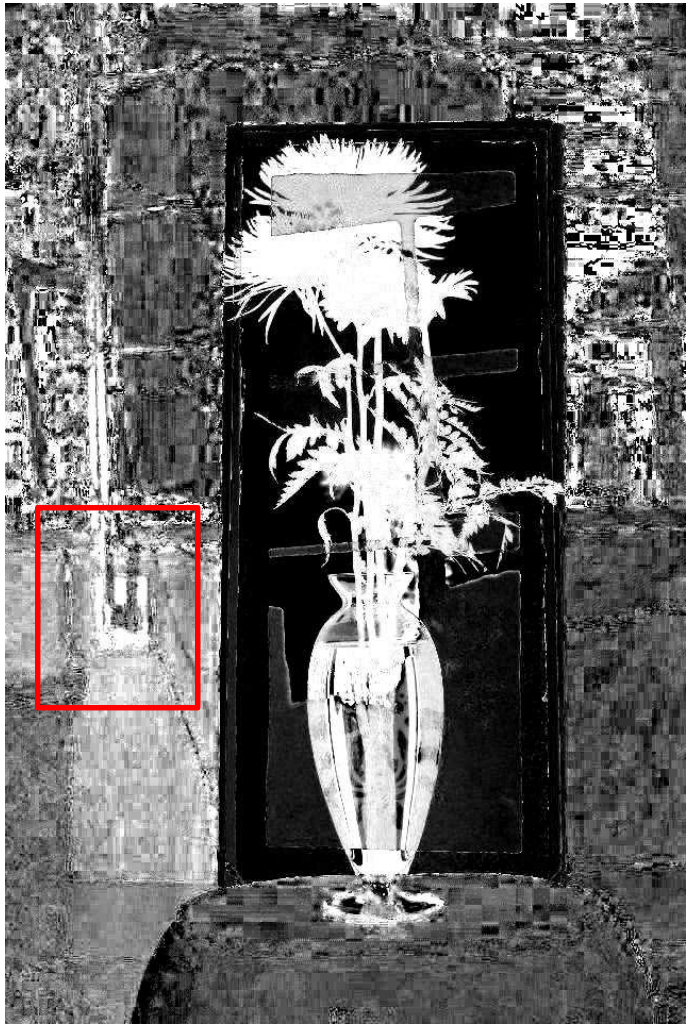
A1 Part B Question 1

The Object image computed in the second run contains a lot of pixels that should really be part of the background, but aren't. Equivalently, even though the Alpha Matte should be zero at those pixels, the algorithm assigned non-zero values.

A1 Part B

A1 Part B

A1 Part B



A1 Part B

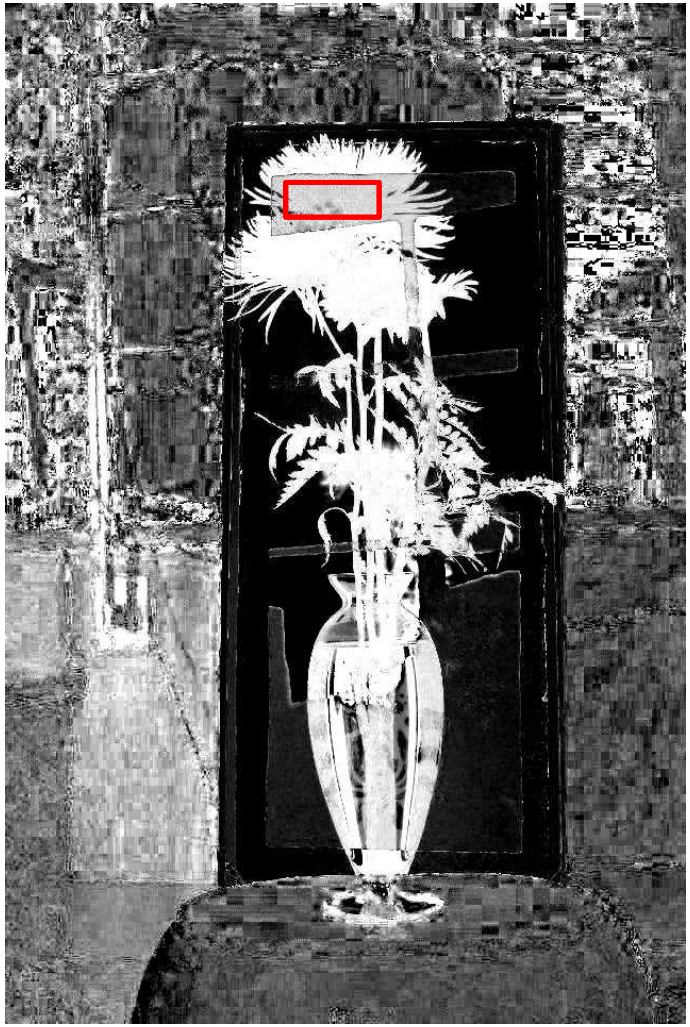
$$\begin{bmatrix} R_\Delta \\ G_\Delta \\ B_\Delta \\ R_\Delta' \\ G_\Delta' \\ B_\Delta' \end{bmatrix} = \begin{bmatrix} 1 & 0 & -R_K \\ & 1 & -G_K \\ & 0 & 1 & -B_K \\ 1 & 0 & & -R_K' \\ & 1 & & -G_K' \\ 0 & & 1 & -B_K' \end{bmatrix} \begin{bmatrix} R_0 \\ G_0 \\ B_0 \\ \alpha_0 \end{bmatrix}$$

$$C_\Delta = C - C_K$$

A1 Part B Question 2

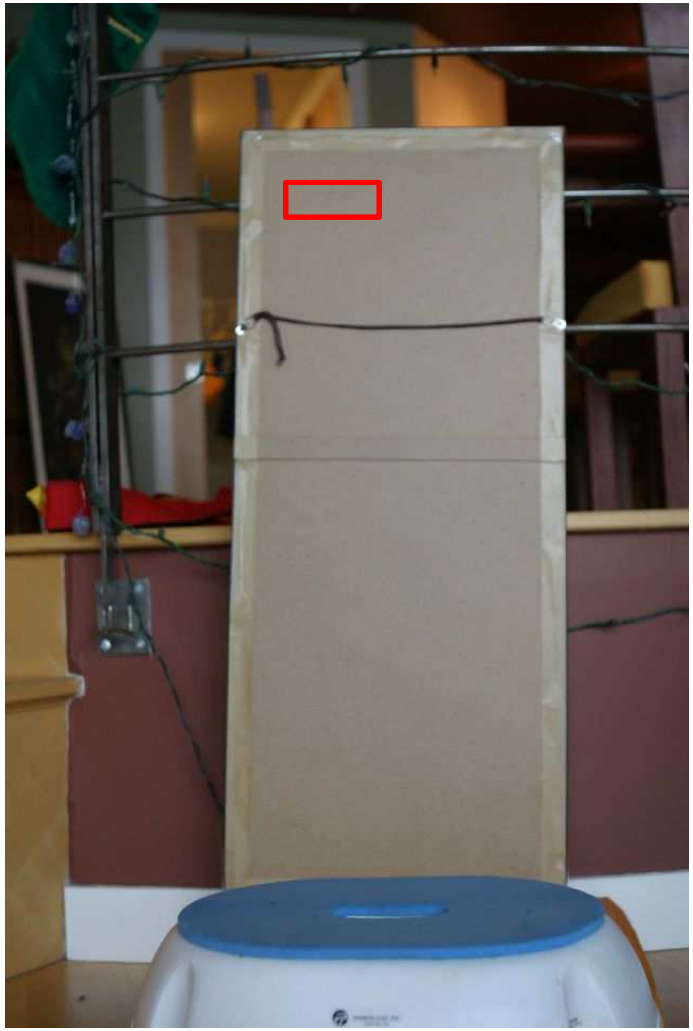
Conversely, there are many pixels that should be fully opaque, but aren't….

A1 Part B



A1 Part B

A1 Part B



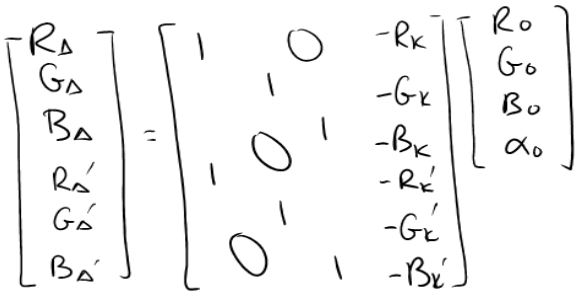
A1 Part B Question 2

Background 1: (136, 132, 121)

Background 2: (143, 57, 58)

Composite 1: (181, 200, 198)

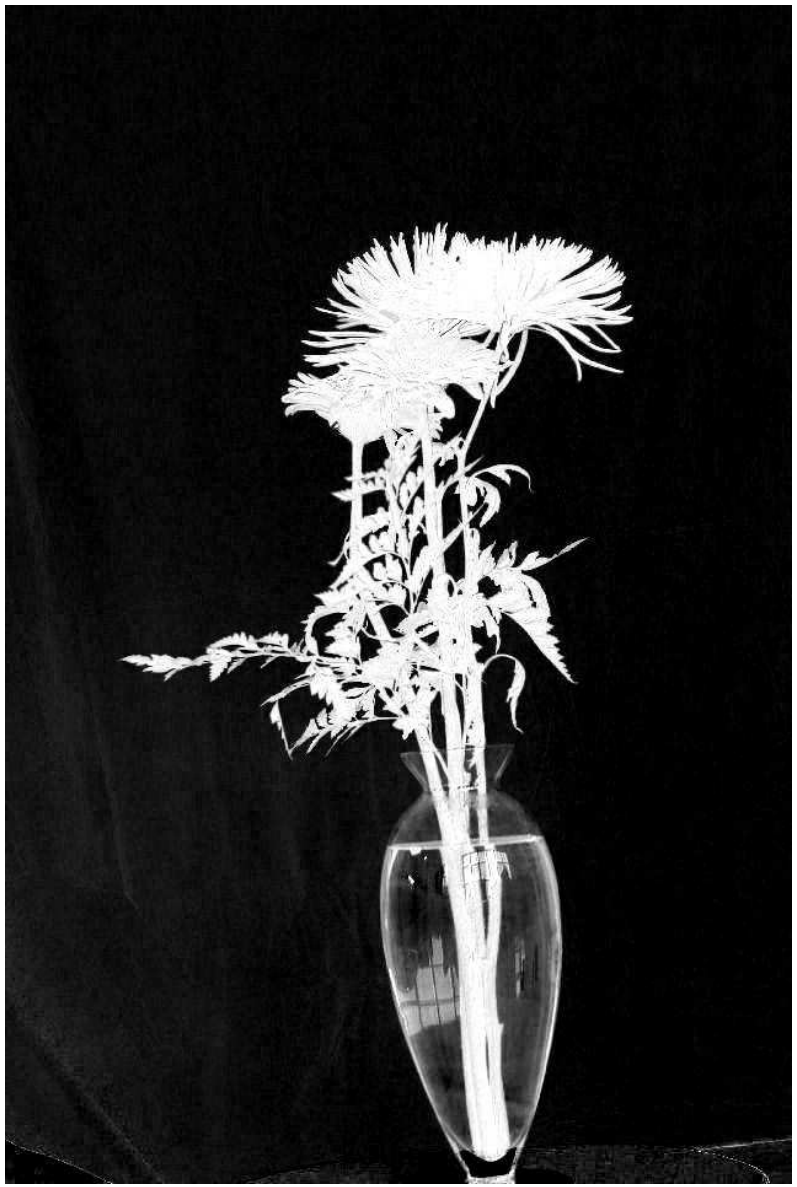
Composite 2: (185, 193, 178)



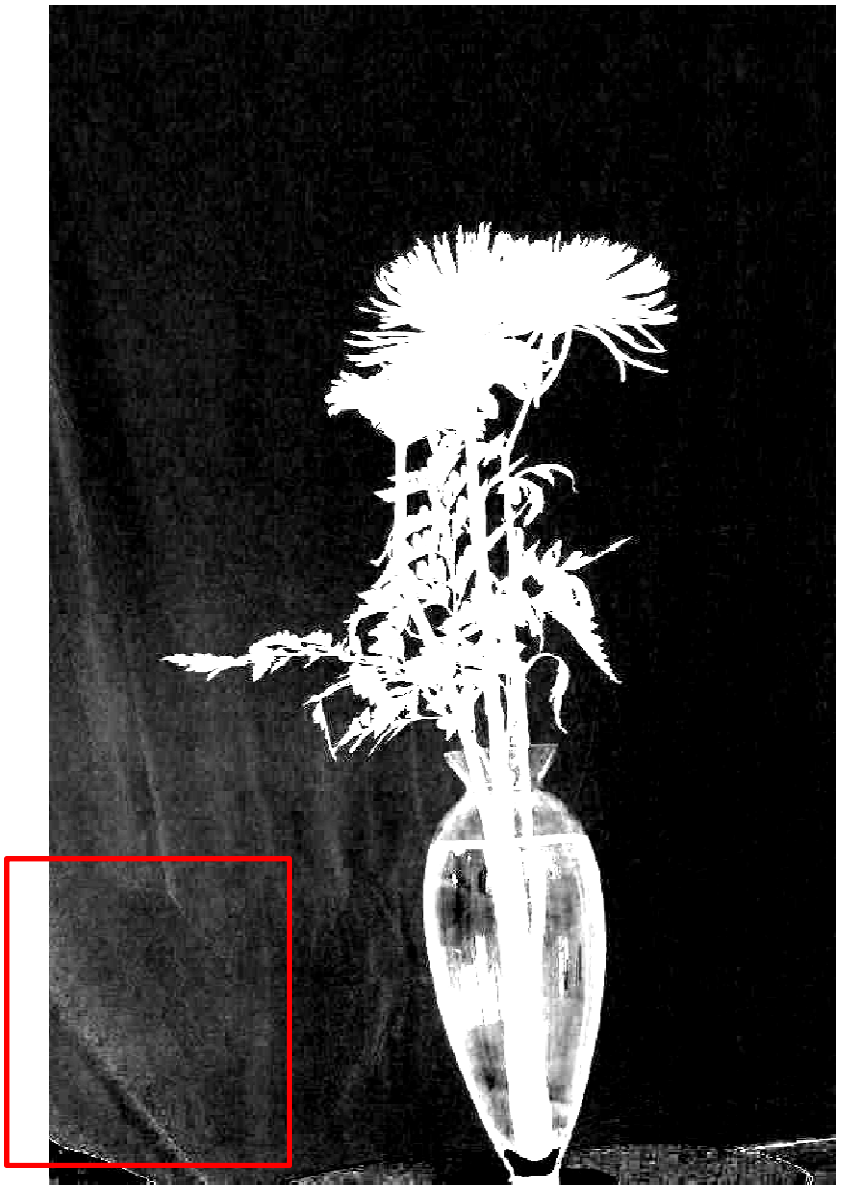
$$C_\Delta = C - C_K$$

$$\begin{bmatrix} 45 \\ 68 \\ 77 \\ 42 \\ 136 \\ 120 \end{bmatrix} = \begin{bmatrix} 1 & & & -136 \\ & 1 & & -132 \\ & & 1 & -121 \\ 1 & & & -143 \\ & 1 & & -57 \\ & & 1 & -58 \end{bmatrix} * \begin{bmatrix} r \\ g \\ b \\ alpha \end{bmatrix}$$

A1 Part B Question 3



A1 Part B Question 3



A1 Part B Question 3

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