

# HW1

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☐ Due on 10/12, pm 11:59

☐ Image Read/Write

- Write a program to implement "bmp" format image reading and writing.

☐ Image Rotation

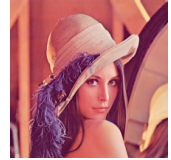
- Do a 90-degree clockwise rotation over the input image to generate the output image.

☐ Image Channel Interchange

- Interchange the channels of the rotated image, i.e.,  $R \Rightarrow G$ ,  $G \Rightarrow B$ ,  $B \Rightarrow R$ .

☐ Bonus

- Read and rotate the image with different size. (lena1024.bmp, lena\_cropped.bmp)
  - ☐ Hint: decode the width/height from the header.



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☐ Hint

- You can resize the image to debug your program.
- R/W of non-squared image must adjust the header.

☐ Requirements

- Two Programs
  - ☐ C or C++ source code with .exe file (You are NOT allowed to use any library, such as OpenCV)
  - ☐ VC++ project by using OpenCV
- Report
  - ☐ Describe the employed source code editor and how to execute your program (input/interface/output)
  - ☐ Introduce your work, method, and discussions
  - ☐ With all of the images or results
- Upload to NTUT Elearning