# CMPT 365 Project 1 Submission Guidelines

# (Total: 20 points)

In this project, we will provide 4 sample input images: autumn.tif, balloons.tif, board.tif, lena.tif. The expected output images after grayscale processing, ordered dithering and range adjustment are like below. Please note that:

1. We only provide raw images, and we don't provide the processed images.

2. The processed images are just for reference, the images generated by your code can have some differences with our images.

autumn.tiff

Colored image

Grayscale

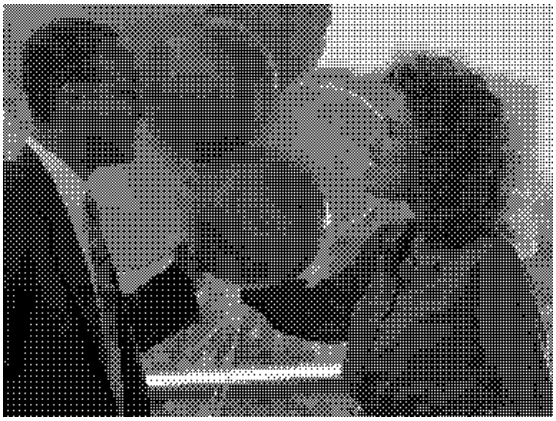
Ordered dithering

Dynamic Range adjustment

ballons.tif

Colored image

Grayscale

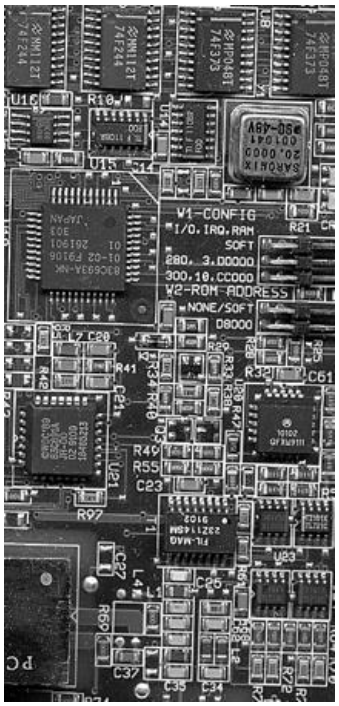


Ordered dithering

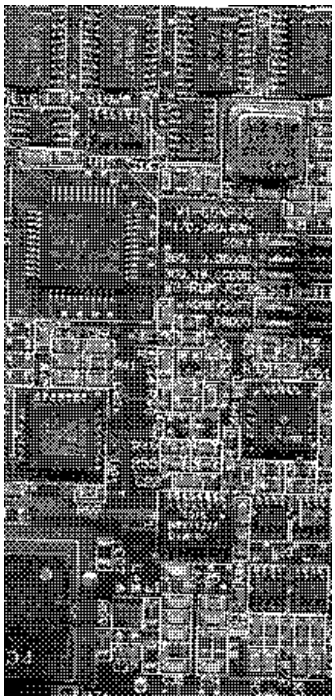
Dynamic Range adjustment

board.tif


Colored image




Grayscale



Ordered dithering

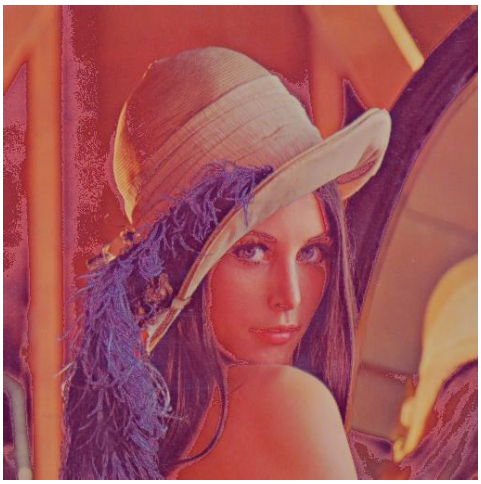

Dynamic Range adjustment

lena.tif

Colored image

Grayscale

Ordered dithering



Dynamic Range adjustment

Like Programming Assignment 1, Project 1 also requires you to submit a pdf report, your code and a demo video. Besides, you need to upload all your generated images.

What to include in the report:

1. The project environment. You need to specify any external libraries you use and state the reasons about why you use these external libraries. (1 mark)

2. State about the methods you use (how you implement) to read and present the color image (2 marks), and how you generate the grayscale image (1 mark), the dithered image (1 mark) and the dynamic range adjusted image (1 mark).

3. For dithering, you need to specify which dither matrix you are using and discuss why you choose this matrix. (1 mark)

4. For dynamic range adjustment, you should experiment different ways/thresholds and discuss the effects in the report. You can add bounding boxes in the images to clearly explain the differences. (1 mark)

4. Your generated images from the 4 sample images are required to be presented in your report. (4 marks) Besides the 4 sample images, you also need to provide at least 2 more tif images and show your generated corresponding grayscale, dithered and dynamic range adjusted images. (2 marks)

What to show in the demo video:

1. The compilation steps of your program with successful compiled results printed at the end. (1 mark)

2. Briefly introduce the program interface and how to use it (at least you should introduce how to open, how to refresh your generated images, and how to quit.) (2 marks)

3. The full process to display how you generate the requested images from the 4 sample pictures given to you and 2 (or more) images you found. (2 marks)

The files you shall upload to Canvas are listed below:

1. A report in .pdf format

2. A .zip file. This file should has the following structure:

- {your-SFUID}/
  - code/
  - images/
  - a demo video

The code/ directory should contain all your source code (**including your executable file located under directory code/, and a file named description.txt also under directory code/ which simply describes the command/method to run your executable file**).

The images/ directory should contain all your images. There should be at least 6 raw TIFF images (4 sample images and at least 2 images you provide), so totally at least 4*(4+2)=24 images you need to upload.

The demo video should be less than 4 minutes.

Like Programming Assignment 1, in Project 1, the report and .zip file will be separately submitted on Canvas. You will be given 1 mark for the correct submission.