Computer Vision

Undergraduate Course

Chapter 13. Color Image Processing (Practice)

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Practice Lecture

- **Chromaticity Diagram**
  - Run the code in page 10.

- **Color Models**
  - Run the code in page 12.
  - Implement '`rgb2hsv`', '`hsv2rgb`', '`rgbtontsc`', and '`ntsctorgb`' in page 14-16 **by yourself**.

- **Color Image Processing**
  - Run the code in page 31-36.

Principles for homework submission

- **MATLAB homework**
  - Submit all source codes (m file) for each (sub-) problem
  - If the codes do NOT work, then there will be a penalty.
  - The report for MATLAB homework should include the intermediate process, reason, and final results.

- **Report homework**
  - The report should include the intermediate process, reason, and final results.
  - The report homework should be done **by hand, NOT using any computer software**.

Example of Source Code

- For each problem, the source code should consist of **two functions**, as below.
  - In the 'homwork_main.m', the results should **appear** or be **saved** as below.

homework_main.m

```
in1 = imread('cameraman.tif');

out1 = function_example(in1);

imshow(out1); % or use imwrite(out1, 'output.png');
```

function_example.m

```
% Please make sure that there is a return variable to save an output.
% In the example below, 'y' is the return variable.
function y = function_example( im )

% Implement your code here.

end
```

숙제 제출 원칙

- **매트랩 숙제**
  - 각 세부문제 별로 모든 소스 코드를 제출
  - 만약 코드가 작동하지 않을 경우, 감점
  - 매트랩 숙제에 대한 보고서는 중간 결과, 이유, 최종 결과 등을 모두 포함하여 자세히 서술할 것

- **문제풀이 숙제**
  - 보고서는 중간 결과, 이유, 최종 결과 등을 모두 포함하여 자세히 서술할 것
  - 문제풀이 숙제는 반드시 손으로 해서 낼 것 (컴퓨터 SW를 사용하지 말 것!)

Practice Homework

1. (Report) Exercise 4

2. (MATLAB) Exercise 11 and 12 (a)~(d)
   - In Exercise 11, use the **wiener filter only**. You can use your own code that you implemented in 'Practice Homework 2 of Chapter 8' or the MATLAB built-in function '`wiener2`'.
   - In Exercise 11, use 'twins.tif'.