

Parallel Processing

Assignment 3

This assignment is individual assignment, every student should submit by himself.

Due: Next Section

1. True or False:

- a. Gathering pattern may cause a write synchronization problem.
- b. From RGB Gray scale image is an application example of scatter pattern. .
- c. Transpose pattern represent a many to one relation between the input and the output.
- d. Mapping is represent a one to one relation between input and output.

2. Write a CUDA program to convert a RGB image to a grayscale image using the following formula for color conversion.

$$I = 0.2126 * R + 0.7152 * G + 0.0722 * B$$

PS 1: use the following templates to complete task 2 and 3

- [VS2013 template](#)
- [Linux template](#)

PS 2: Refer to the following video to understand how to handle image in a simple way

- [How to simply handle an image with CImg in CUDA](#)