Quiz 5 (deadline: Tuesday 30 November 2021, 8:45 AM)

1. How would you define problem size? What is the (total) overhead To?
2. Name two major categories of graph partition methods. Is the BFS algorithm always better than the inertial portioning algorithm? Please explain.
3. Consider the operational intensity of the following RGB-kernel? Is this a memory-intensive or a compute-intensive kernel? Assume that pixel.R, pixel.G and pixel.B are all numbers of 4 bytes.

for (int y = 0; y < height; y++) {

for (int x = 0; x < width; x++) {

Pixel pixel = RGB[y][x];

gray[y][x] =

(2.5\*pixel.R + 2\*pixel.G + 3.5\*pixel.B)/7;

}

}