

## Computational Photography (CSCI 3240U) — In-class Exercise

Please hand in this paper to the instructor before the end of the lecture.

Lastname (PRINT): \_\_\_\_\_ Firstname: \_\_\_\_\_

Student number: \_\_\_\_\_ Date: \_\_\_\_\_

**Q.** Consider a camera that captures three-pixel images. We use this camera to capture the following photographs of a static scene:

- Exposure 0.5 sec, pixel values [0.05, 0.5, 0.12]
- Exposure 1 sec, pixel values [0.1, 0.7, 0.2]
- Exposure 2 sec, pixel values [0.3, 0.8, 0.3]
- Exposure 4 sec, pixel values [0.6, 0.9, 0.62]

Use this information to setup the following equations that we solve to estimate the log of the inverse of response function:

$$g(z_{ij}) = \log E_i + \log \Delta t_j$$

Recall that  $g(z) = \log f^{-1}(z)$