

# Indian Institute of Science

## Mathematical Methods and Techniques in Signal Processing

Instructor: Shayan Srinivasa Garani

Home Work #4, Spring 2021

Late submission policy: Points scored = Correct points scored  $\times e^{-d}$ ,  $d = \#$  days late

**Assigned date:** June 3<sup>rd</sup>, 2021

**Due date:** June 12<sup>th</sup>, 2021, 11:59 pm.

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In this homework you will try to experiment with images. Consider the standard grayscale image of Barbara. Perform a KL transform on this. Obtain the compressed image that retains 90% of the original energy. What is your compression ratio? Show all your experimental details, including the software code in an Appendix. (100 pts.)