Digital Image Processing

Fall 2021

**Assignment #6**

**1. Objective Fidelity Criteria**

Write a program to compute the *root-mean-square error* [see Eq. 8.1-10] and *mean-square signal-to-noise ratio* [see Eq. 8.1-11] of a compressed-decompressed image. This project is generic in the sense that it will be used in other projects that follow.

计算均方根 均方信噪比

**2. Transform Coding**

(a) Write a program to compute the information loss associated with the following transform coding schemes:



Use part of transform coefficients (first 32, 16 and 8 coefficients based on zig-zag ordering) to do inverse transform, and use your Objective Fidelity Criteria routines to quantify the loss of information. Download the image in Fig. 8.9(a) and use the program to compare Cases 1 and 2.

使用部分系数进行逆变换

使用Objective Fidelity Criteria routines来量化信息损失