Reading: RJM Chapter 3.  
Shannon’s 1959 paper.

Problems to Hand In:

Problem 1. Using ideas from Shannon’s 1959 paper, pp. 329–331, or otherwise, compute (e.g. make an accurate plot) of the $R(\delta)$ function for the source $(1/5, 1/5, 1/5, 1/5, 1/5)$ relative to the distortion matrix

$$D = \begin{pmatrix}
0 & 1 & 2 & 2 & 1 \\
1 & 0 & 1 & 2 & 2 \\
2 & 1 & 0 & 1 & 2 \\
2 & 2 & 1 & 0 & 1 \\
1 & 2 & 2 & 1 & 0
\end{pmatrix}$$

Problem 2. RJM Problem 3.17.