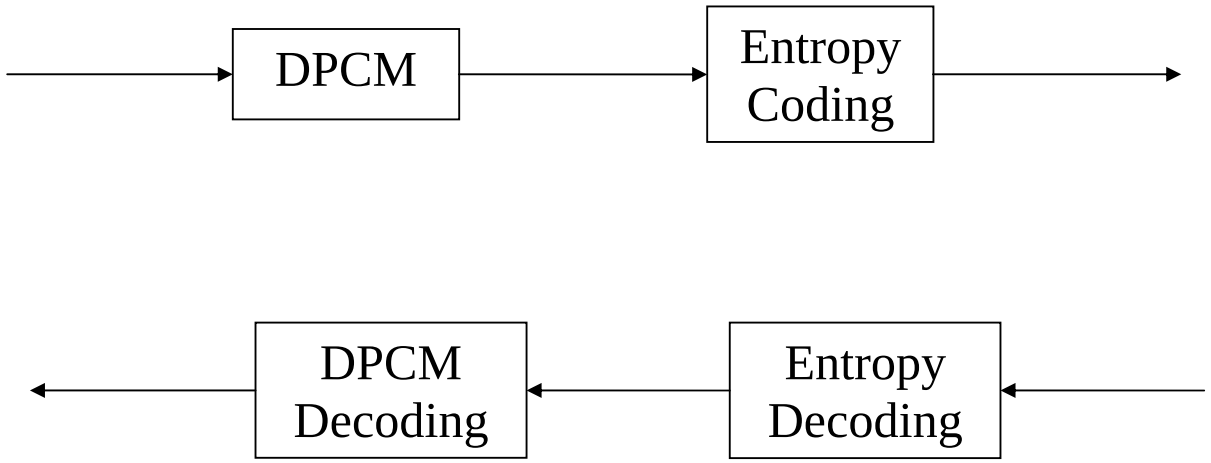
# Project Option #1
# Lossless Predictive Coding

**Requirement**

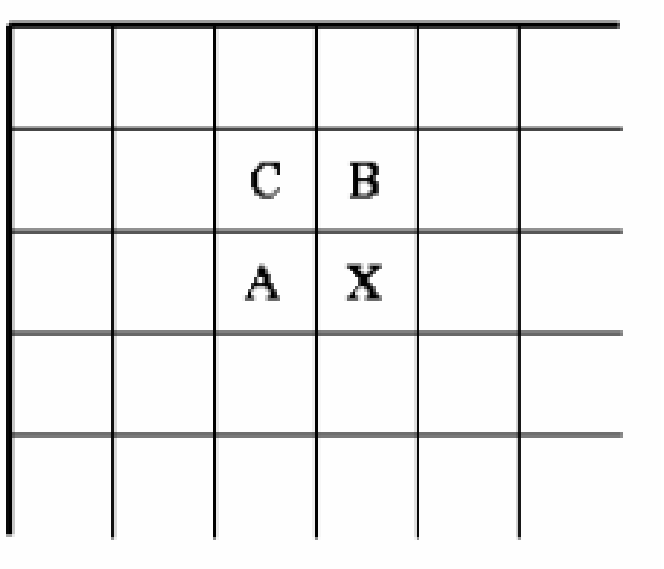
- Lossless
- Compression ratio



## Input Image Format

- Lena512.pgm (**provided**): non-color, can be viewed by XnView
- Raw data size = 512x512 = 262144 bytes
- Header of the pgm format:
  - Type: P5
  - Row & Col: 512 512
  - Graylevel: 255

## Suggested DPCM Predictor




(1) 0.75A-0.5B+0.75C
(2) A+B-C
(3) A+(B-C)/2
(4) B+(A-C)/2
(5) (A+B)/2

## Entropy Coding

- Option 1: Huffman Coding (generate Huffman codebook)
- Option 2: Modified Huffman Coding
- Option 3: Adaptive Arithmetic Coding (**Reference Provided**)

## Suggested Programming Tools

- C++/C
- Matlab (DSP Lab)