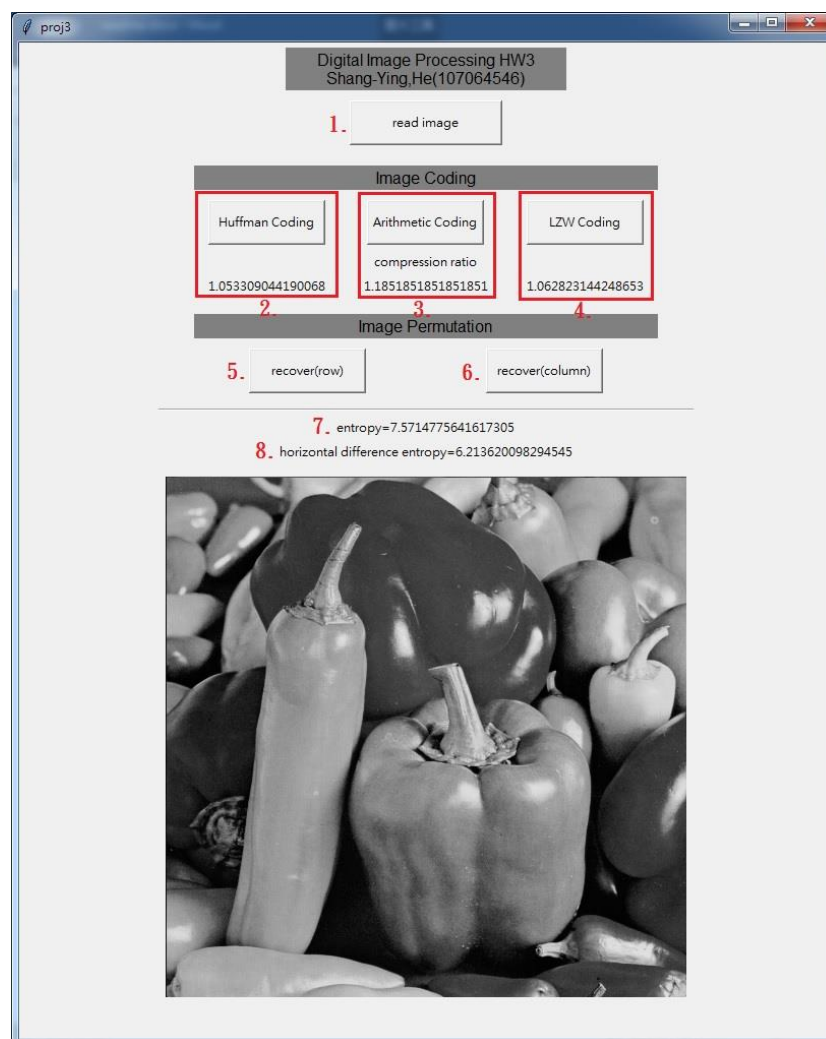


# Installation

- Require packages
  1. Anaconda python 3.6
- How to run  
use command `python main.py` under the path `.\HW3`, or any other compiler open `.\HW3\main.py` just like Jupyter Notebook, spyder, and run it then you can see the GUI.

## How to use in GUI



1. Read image
2. Compress image using Huffman coding and compression ratio will show in bottom
3. Compress image using Arithmetic coding and compression ratio will show in bottom
4. Compress image using LZW coding and compression ratio will show in

bottom

5. Recover randomly shifted row image (will cost a few seconds)  
Recovered image will save in ./result folder
  6. Recover randomly shifted column image (will cost a few seconds)  
Recovered image will save in ./result folder
  7. Compute entropy automatically after reading image
  8. Compute horizontal difference entropy automatically after reading image
- Example: 1.(choose .\data\image1.png)→2.→3.→4.
  - Example: 1.(choose .\data\image3.png) →5.