

## Programming Homework – JPEG Decoder

### Basic Requirement:

1. Implement a JPEG baseline (sequential DCT-based) 4:1:1 decoder [1].
2. Correctly decode the assigned .jpg images [2] into .bmp files.
3. Submitted package *must* include: (1) source codes, (2) **windows** executables, and (3) usage documents; all should be compressed as a single *zip* file and name it as `ITCT_JPEG_complete-student-id.zip`, e.g., `ITCT_JPEG_R93940000.zip`.

### Bonus:

1. Implement a JPEG baseline encoder.
2. Support other JPEG modes, e.g., progressive mode.
3. Provide a friendly graphical user interface.
4. Any practical improvement.

### Note:

1. The usage document should describe how to run your programs clearly.
2. Virus-infected package will get stiff penalty.
3. Do **not** include any *obj* or language-dependent files in the submitted package. The ones with unreasonable file-size will get some penalties.

### Reference:

- [1] JPEG International Standard (T.81E).
- [2] The four JPEG images: “monalisa.jpg”, “teatime.jpg”, “gig-sn01.jpg”, and “gig-sn08.jpg”.