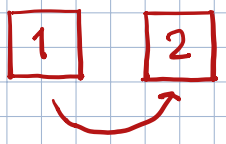
Multimedia Compression Technique :

Moving Picture Expert group (MPEG) → mp4, mp3

- ISO and IEC
  - ↓ International Electrotechnical Commision
- Lossy Compression Technique
- Quality will remain change (high compression)



- Store changes from one frame to another
- Does not store changes the entire frame

- Type MPEG-1, 2, 4, 7, 21
  - MPEG-1 → Audio/Video standard designed for digital storage media 352X240 30fs
  - MPEG-2 → VCD, DVD, DVD-S2 → Used for Digital TV transmission, Cable TV, satellite 720X480, 1280X720 2[illegible]fs HDTV
  - MPEG-4 → PC, mobile, web → Weblet based image/video 2D/3D
  - MPEG-7 → Multimedia Content Generic → Dictionary based description and search of multimedia content called as Multimedia content description interface
  - MPEG-21 → It provides a larger architectural framework for the creation and delivery of multimedia

It defined some key element

- Digital Item identification and declaration
- Content handing and Usage
- Intelectual property mgt and Protect
- Terminal and Net
- Content Representation

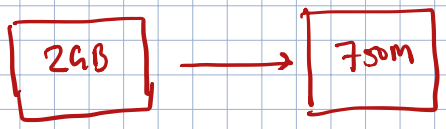
- Event Reporting

Pros:
- Quality results (than AVI)
- frame is compatible with Web browser
- Consume low data rate

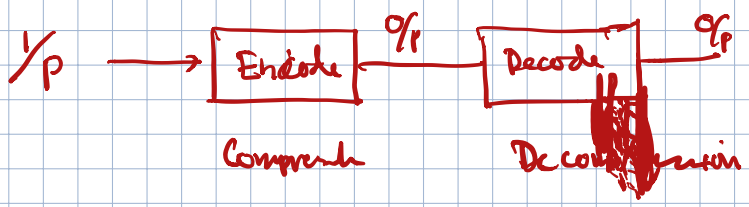
Not recommended for editing or archiving

Special software is required

Data Compression
↓ amount of disk space required
↓ transmission rate



- Lossless Text Encryption
- Lossy
  less important info is required
  Image Audio Video



Compression Ratio = Compressed file Size / Original Size

Discrete Cosine Transformation

$$B(k_1 k_2) = \sum_{i=0}^{N_1-1} \sum_{j=0}^{N-1} 4 A(i,j) \cos\left[\frac{\pi k_1}{2N_1}(2i+1)\right] \cos\left[\frac{\pi k_2}{2N_2}(2j+1)\right]$$

1 Reduction of Resolution
2 Motion Estimation

3 2 Compression & Image subtraction

4 DCT 5 Quantization 6 Run length encoding

7 Entropy encoding