

MULTIMEDIA LECTURE - 3

TOPICS COVERED :

❖ IMAGE

❖ IMAGE FILE FORMATS

Images

Two types:

- **Computer generated images** (also known as graphical images)
 - graphics image is represented differently in the computer file system, typically in the form of a program and this form of representation requires less memory.
- **Digitized images** (of both document and pictures)
 - representation is a 2-Dimensional matrix of picture element.

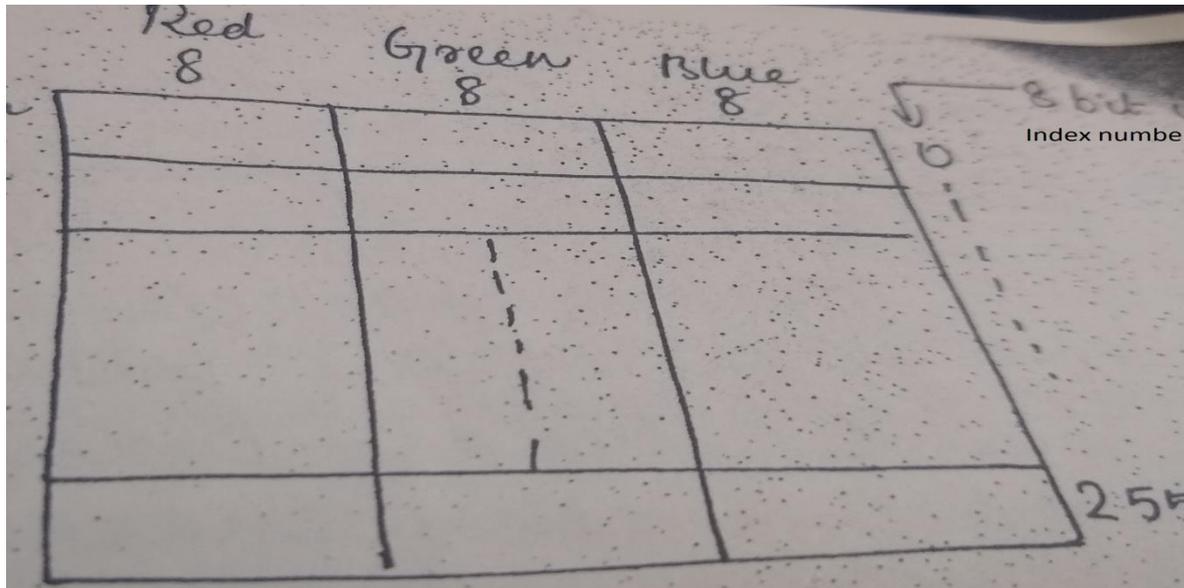
Image File formats

1. GIF -Graphics Interchange Format
2. TIF – Tagged Image File Format
3. JPEG – Joint Photographic Experts Groups

1. GIF -Graphics Interchange Format

- This format is used extensively with the Internet for the representation and compression of Graphical Images
- 8 bits each for R, G, B are supported
- Color table consists of 256 entries, each of which contains a 24 bit color value and index number to each color value. Hence instead of sending each pixel as a 24 bit value only 8 bit index to the table entry that contains the closest match color to the original is sent
- The table of colors can relate either to the whole image in which case it is referred to as the global color table
- Or to the portion of the image , when it is referred to as a local color table
- The contents of the table are sent across the network together with the compressed image data and other information such as the screen size and aspect ratio

The principle of the scheme for GIF is shown in the figure:



2. Tagged Image File Format

- It supports pixel resolution of up to 48 bits – 16 bits each for R, G and B and is intended for the transfer of both images and digitized documents.
- The image data can be stored and transferred over the network in a number of different formats.

TIF continued....

- The particular format being used is indicated by code number
- Code number 2,3 and 4 are intended for use with digitized documents
- Uses the same compression algorithm for use with digitized documents

3. JPEG- Joint Photographic Expert Group

- developed by team of experts who had knowledge of the compression of digitized pictures
- It is defined in the International standard IS 10918
- This standard defines a range of different compression modes, each of which is intended for use in a particular application domain
- It is intended for the compression of both monochromatic (no color) and color digitized pictures/images as used in multimedia communication applications.