

# Lab Assignment-1

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## 1. What is PPM and PGM image?

**Answer:**

### (a) PPM Image

PPM is short for Portable Pixmap Format. You can store basic information about a color image in a PPM file. Each PPM usually follows the same format, starting with a “magic number,” which helps identify the file type before moving on to the dimensions and color matrix of the image.

### (b) PGM Image

PGM (Portable Greymap) files store grayscale 2D images. Each pixel within the image contains only one or two bytes of information (8 or 16 bits).

## 2. Describe different magic numbers in PPM and PGM image.

**Answer:**

In the PPM and PGM image there is an identifier at the start, which is called a magic number. There are “P1”, “P2”, “P3”, “P4”, “P5”, or “P6” as magic numbers.

“P1” and “P4” indicate that the image data is in the bitmap. These files are called PBM (Portable Bitmap).

“P2” and “P5” are used to indicate grayscale images or PGM (Portable Greymap) files.

“P3” and “P6” are used to indicate full color PPM (Portable Pixmap) files.

The lower numbers – “P1”, “P2”, “P3” – indicate that the image data is stored as ASCII characters.

The higher numbers – “P4”, “P5”, “P6” – indicate that image data is stored in a binary encoding.

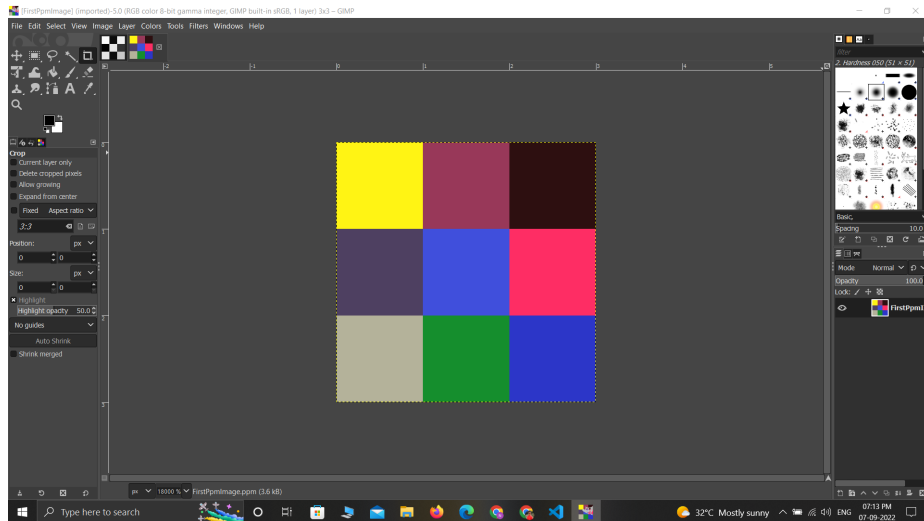


Figure 1: PPM Image

### 3. Why PPM and PGM images is deprecated?

**Answer:**

#### (a) PPM Image

There is no compression in PPM image. So It is required large amount of storage.

PPMs are only compatible with certain software.

Other than the basic colors, you're not able to include much information about an image when using a PPM file.

#### (b) PGM Image

No colour. Grayscale — that is, black, white and shades of grey — is all you get with PGM files. They're not capable of working with colour.

Image quality. PGM images can only hold a certain amount of information. For very large, detailed images, they're usually not the best solution.

### 4. Create PPM and PGM image.

**Answer:**

#### (a) PPM Image

Refer Figure 1 for PPM image

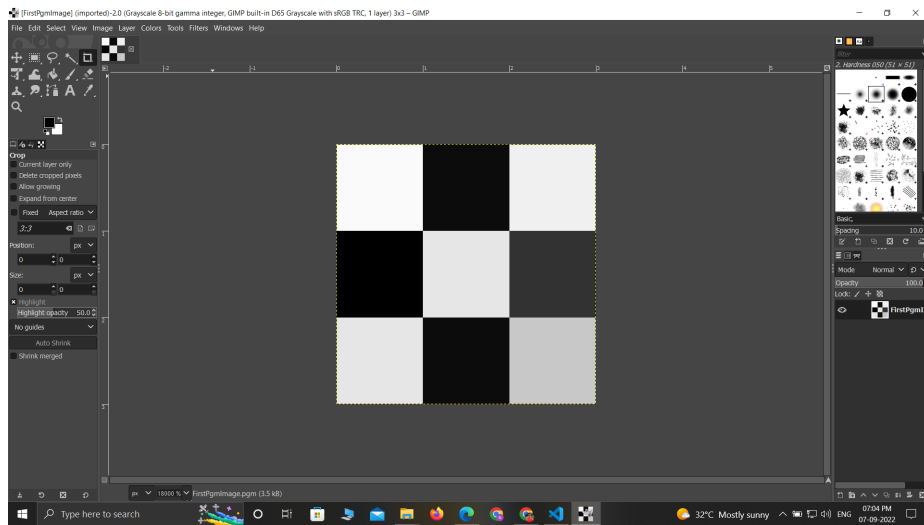


Figure 2: PPM Image

(b) PGM Image

Refer Figure 2 for PPM image