What is Graphic?

- Graphics are visual images or designs of objects on some surface, such as a wall, canvas, screen, paper, or stone to inform, illustrate, or entertain.
- Graphics often **combine text, illustration, and color**.

Examples

- Photographs
- Drawings
- Line art
- Graphs
- Diagrams
- Typography
- Numbers
- Symbols
- Geometric designs
- Maps
- Engineering drawings

Graphic design

It is the creation or arrangement of visual content to communicate messages. Applying visual hierarchy and page layout techniques, graphic designers use typography and pictures to meet users' specific needs and focus on the logic of displaying elements in interactive designs to optimize the user experience.

Eg:- as in a brochure, flyer, poster, web site, or book

Definition of Computer Graphic

- Computer graphic refers to the creation, storage & manipulation of pictures and drawings using a computer (program).
- Used to represent the data.
- It enhances the communication between computers & the users.

Areas of Computer Graphic Design

- Displaying of Information
- User Interfaces
- Design
- Simulations

Types of Computer Graphic

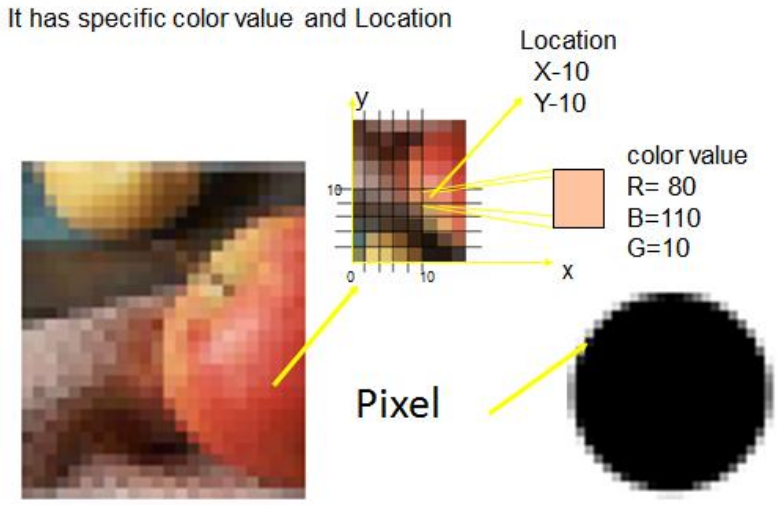
Raster graphics

Raster graphics, also called bit-map graphics, a type of digital image that uses tiny rectangular pixels, or picture elements, arranged in a grid formation to represent an image. it is well-suited for displaying continuous-tone images such as photographs or shaded drawings, along with other detailed images.

Bitmap images are resolution dependent. Resolution refers to the number of pixels in an image and is usually stated as dpi (dots per inch) or ppi (pixels per inch).

Software

1. Adobe Photoshop
2. Corel Photo Paint
3. Ms Paint
4. Photo Studio
5. ArtRage.
6. Artweaver.
7. CinePaint.



When to Use Raster Graphics

- where photography is required
- Raster graphics are ideal for web design
- when you want to add an effect to an image such as a blur, texture, or other image manipulation is required

Advantages

- Storage techniques allow data analysis to be easily programmed, and quickly performed.
- Supports for all displaying information
- Help to produce the reality of the image

Disadvantages:

- The cell size determines the resolution at which the data is represented
- Large file when storing data
- They are not upward scalable. Because, cannot make it larger without losing quality
- Resolutions depended

Vector graphics

Vector graphics are based on mathematical formulas. A vector graphic is made up of a series of small points that combine together to make lines and images. And this graphics are generally used for line art, illustrations and embroidery.

Software

- Adobe illustrator
- Macromedia freehand
- Corel draw.

When to use Vector Graphics:

- Large scale like banners, icons, signage, vehicle wraps and other large format items.
- Used for business identity print work, logos, promotional posters, and major illustrations.

Advantages of vector graphics:

- Vector files are small because they contain a lot less data than raster image files.
- Vector graphics are more flexible than raster graphics because they can be easily scaled up and down without any loss to the quality of the image.
- Vector graphics have smoother lines when compared to square, pixel-based raster graphics therefore, they are better with straight lines and sweeping curves than raster graphics.

Disadvantages of vector graphics:

* If there are small errors or faults in a vector graphic, these will be seen when the vector image is enlarged significantly.

* Vector graphics are generally filled with a solid color or a gradient. They can't display detailed image properties (photo) as a raster graphic.