

Topic 6 :Introduction to graphics, plotting pixels, Graphic's primitives, vector and bitmap graphics

Graphic Elements & Definitions.

A **pixel** is the smallest unit of display which is a small dot of a color value.

Screen Resolution is the number of pixels wide followed by the number of pixels high the monitor displays in a particular mode.

Window size is the number of pixels wide followed by the number of pixels high the window has at a given time.

Screen Coordinates are counted from the top left of the screen or window in pixels. For example the top left most pixel is (0,0). The count from left to right starting from 0 is first and called X. The count from top to bottom starting from 0 is called Y. In order to display X and Y they are always positive and whole numbers less than the screen resolution or window size.

Graphics Card/Adapter is a special purpose sub computer in a PC or other device that supports displaying and calculating Graphics and Photos. The Graphics Card may be a physical Card plugged into a PC or built into the PC's motherboard. Smaller devices generally have the Graphics card as built into their main boards.

Monitor is the device that shows the results of the graphics card that you see. There are ones that use Video tubes and there are Flat panels and there are small flat panels. A monitor is different from a TV in two ways.

1. TV's have a tuner for receiving Television transmissions.
2. Monitors (PC monitors) can display more variety of screen resolutions called video modes.

Vector Graphics are graphics made up of lines, curves and points. Vector graphics can be described in Text and numbers. Vector graphics are easily scalable. Graphic cards have special support for Vector Operations.

Bitmap Graphics are square pictures that may contain a special color termed transparent. Typically in animation there several images for an animated character that are switched in succession to appear as articulated movement. Graphic cards have special support for Bitmap operations.