Scan conversion

The process of representing graphical objects in terms of a collection of pixel values

In case of a raster display pictures on the screen are generated by turning pixels on and off

So in order to draw the basic output primitives like a line or a circle or an ellipse an algorithm is need to decide which pixels on the screen need to be turned on that are closest to ideal path

Line Drawing

Point plotting is accomplished by converting a single coordinate position by an application program into approximate operation for the output device in use.

CRT electron beam is turned on to illuminate the screen phosphor at selected location.

In random scan system, point plotting commands are stored in display list and coordinate values in these instructions are converted to deflection voltages that position the electron beam at that screen location to be plotted during each refresh cycle.

In case of black and white raster scan system a point is plotted by setting the bit value corresponding to specified screen position within frame buffer to 1.For drawing lines, we need to calculate intermediate positions along the line path between two end points e.g. 10.45 is rounded off to 10 (causes stair cases or jaggies to be formed)

To load intensity value into frame buffer at position x, y use setpixel (x, y, intensity)

To retrieve current frame buffer intensity value for specified location use getpixel(x,y)