

Section-3

Ans.1 Z Buffer algorithm was developed by Catmull

Step 1: Initialize Z-buffer and Frame Buffer

$$Z\text{-buffer}(x, y) = 0$$

Step 2: During scan conversion, compare depth values

If $z > Z\text{-buffer}(x, y)$

set $Z\text{-buffer}(x, y) = z$, frame buffer $(x, y) = I_{\text{surface}}$

Step 3: ~~stop~~

To calculate z-value

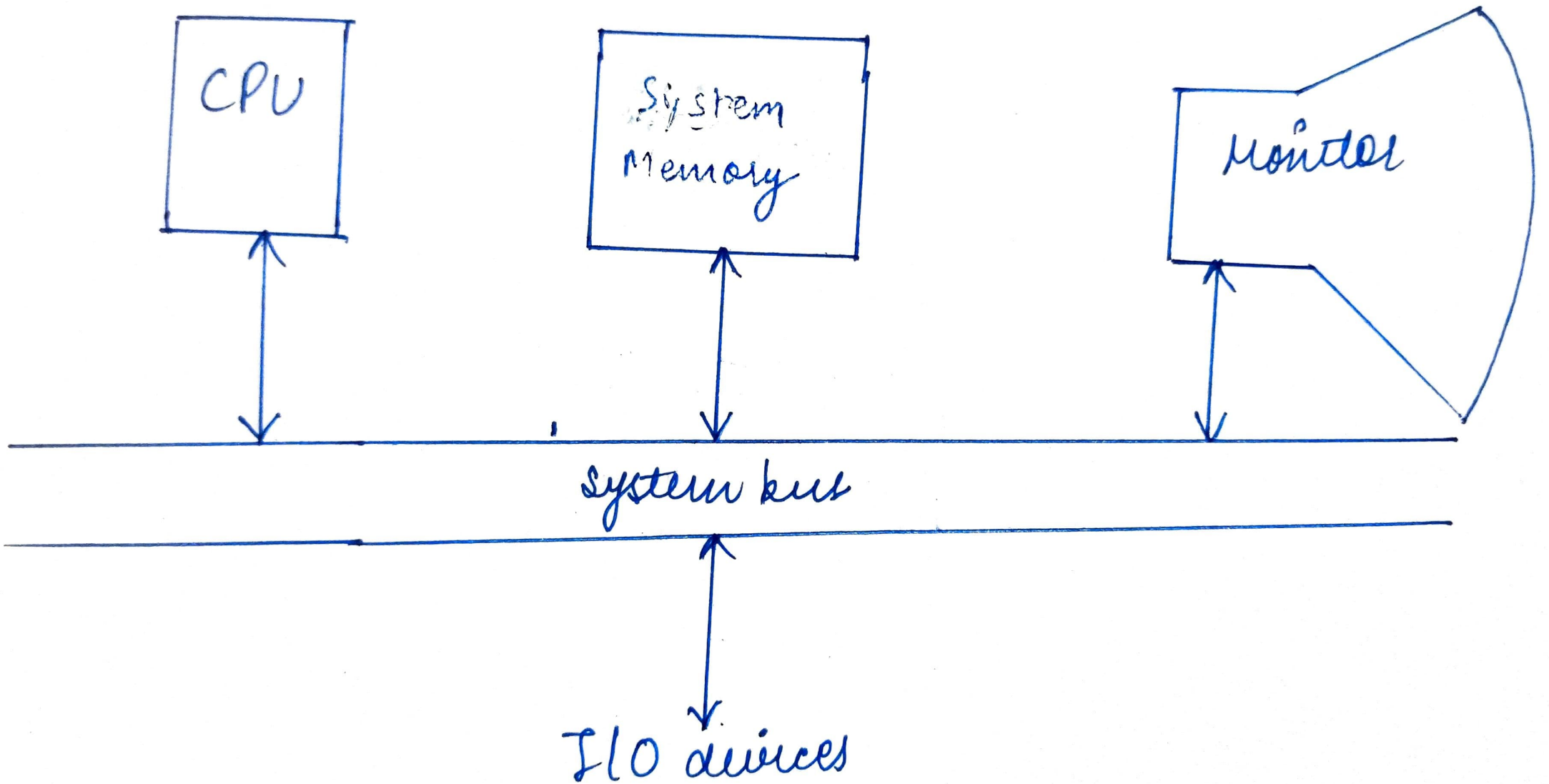
the plane equation

$$Ax + By + Cz + D = 0$$

$$z = \frac{-Ax - By - D}{C}$$

Raster scan Display system:-

- Raster scan display is based on intensity control of pixels in the form of a rectangular box called raster.
- Information of off and on pixels are stored in frame buffer.
- Shadow scenes are possible.
- Million different colors could be generated.
- 60 frames per second are used in interlaced display.



Architecture of Raster Scan System