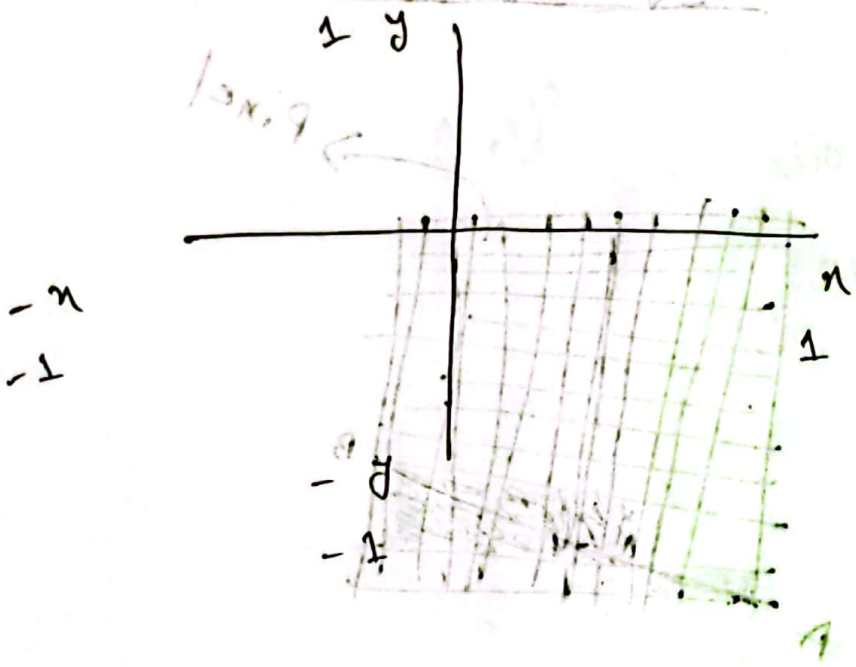
Theme: Computer Graphics

Date: / /

Sat Sun Mon Tue wed Thu Fri

Class → 1

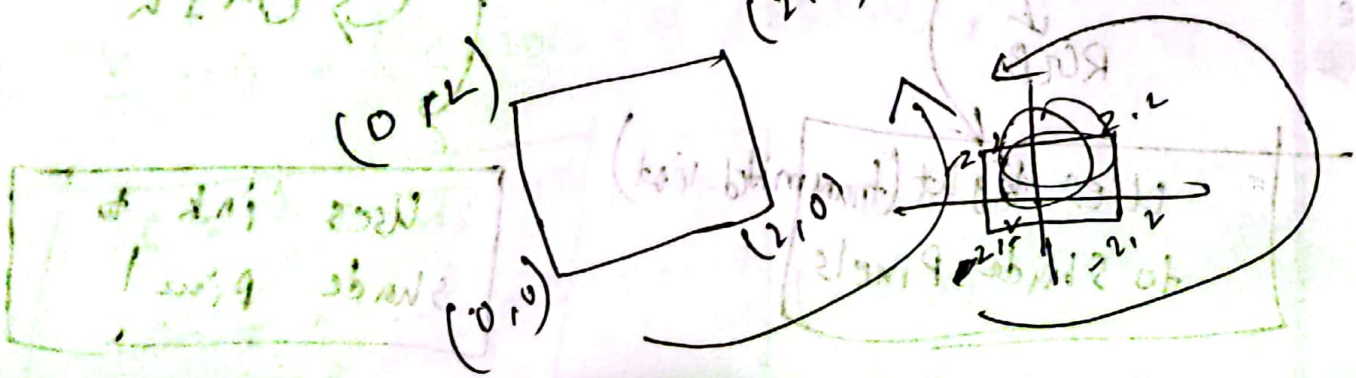



```
gl ClearColour (1.0f, 1.0f, 1.0f, 1.0f);
```

RGB color

Opacity

```
gl Begin (GL_POINTS);
gl Vertex
```



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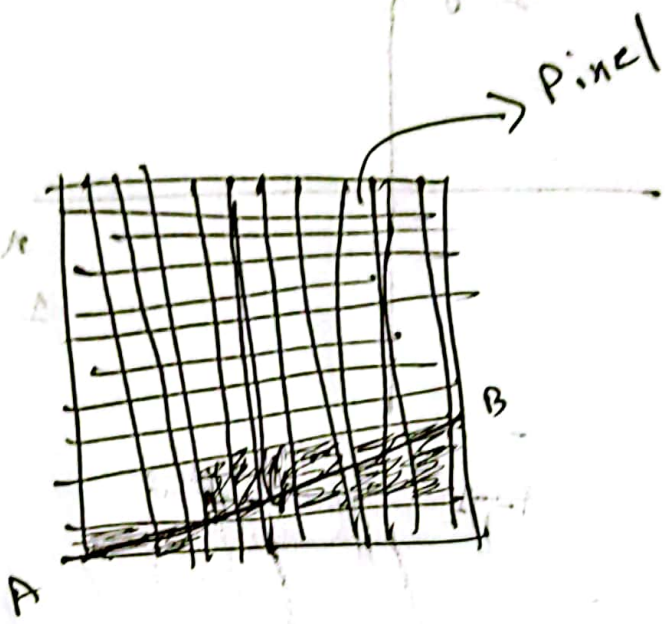
Class → 2

Image Representation



* Raster images are made of bit maps.
* Resolution is dot Per inch.
* Vector image

Color Model

RGB Color varies from 0 to 255.

* Additive and subtractive:
  - RGB → Uses light (transmitted light) to shade Pixels
  - CMYK → Uses ink to shade Pixel

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R	G	B
1	0	0

→ 3 bit RGB

$(2^b)^3$ b = alloeated bit for each colon

$(2^1)^3 = 8$ colon palatte

R	G	B

$(2^2)^3 = 64$ colon. palatte

RGB to CMY

- C = 1 − (colon . R / 255.0); / $1 - \frac{R}{255}$
- M = 1 − (colon. G / 255.0); $1 - \frac{G}{255}$
- Y = 1 − (colon . B / 255.0); $1 - \frac{B}{255}$

$C = 1 - \frac{1}{255} \approx 0.95$ = 95%.

$G = 1 - \frac{0}{255} = 1$ = 100%.

RGB (1, 0, 1) → CMY

CMY to RGB

C M Y

(20%, 10%, 5%)

$R = (1 - C) \times 255$

$G = (1 - M) \times 255$

$B = (1 - Y) \times 255$

$R = (1 - 0.2) \times 255$

$G = (1 - 0.1) \times 255$

$B = (1 - 0.5) \times 255$

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Pixel Shadding

Direct Coding

Look up table

RGB

1 1 1

1 byte | 1 byte | 1 byte

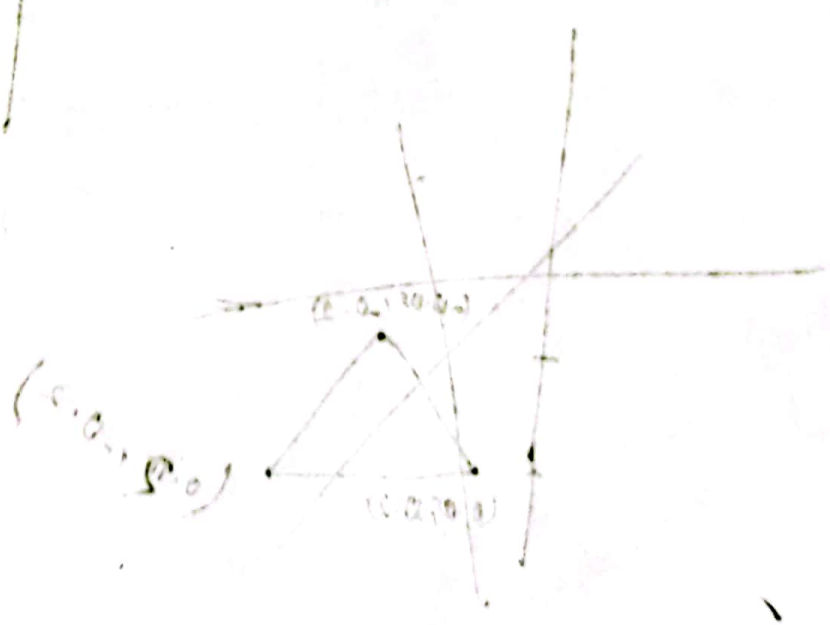
$(2^8)^3$

Printing technique

Halftone

technique that simulates continious tone imagery through use of dots.

- Halftone generates a gradiant like image.



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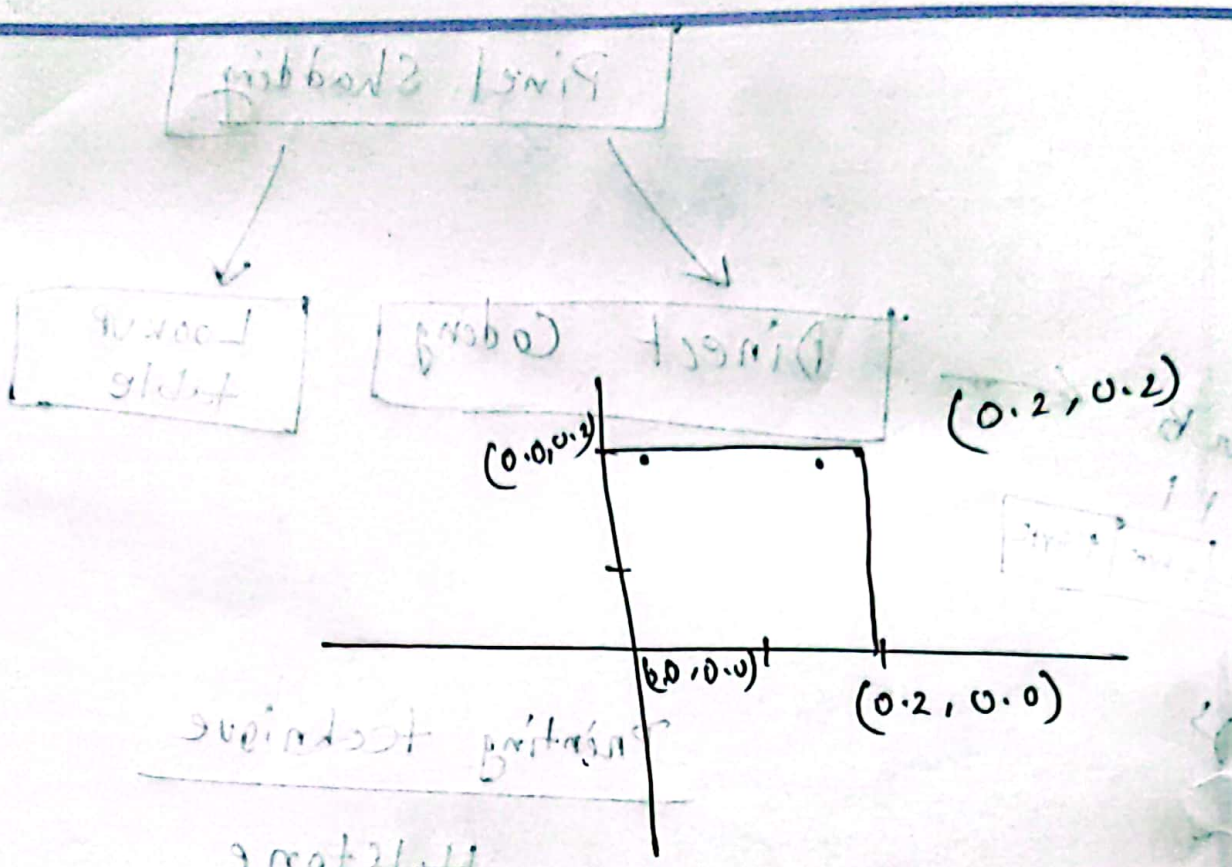

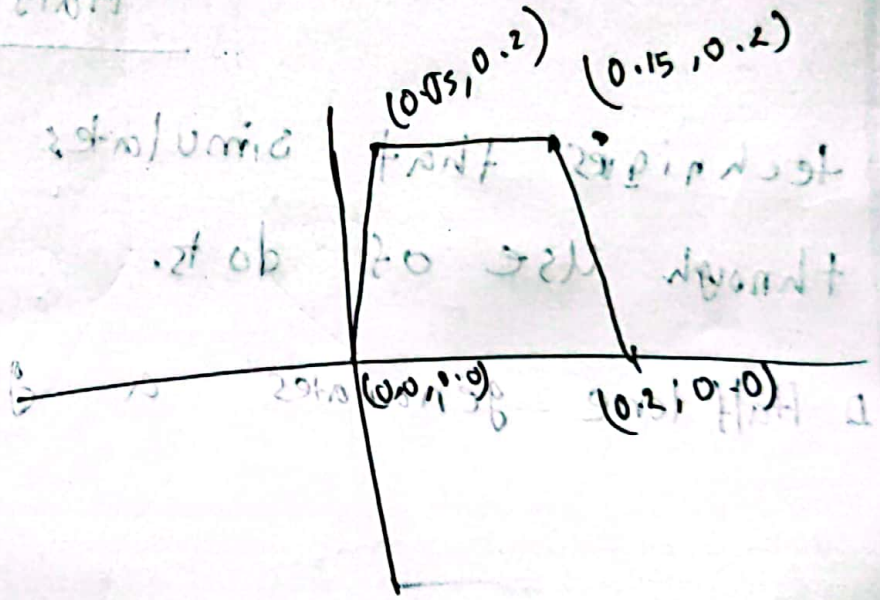

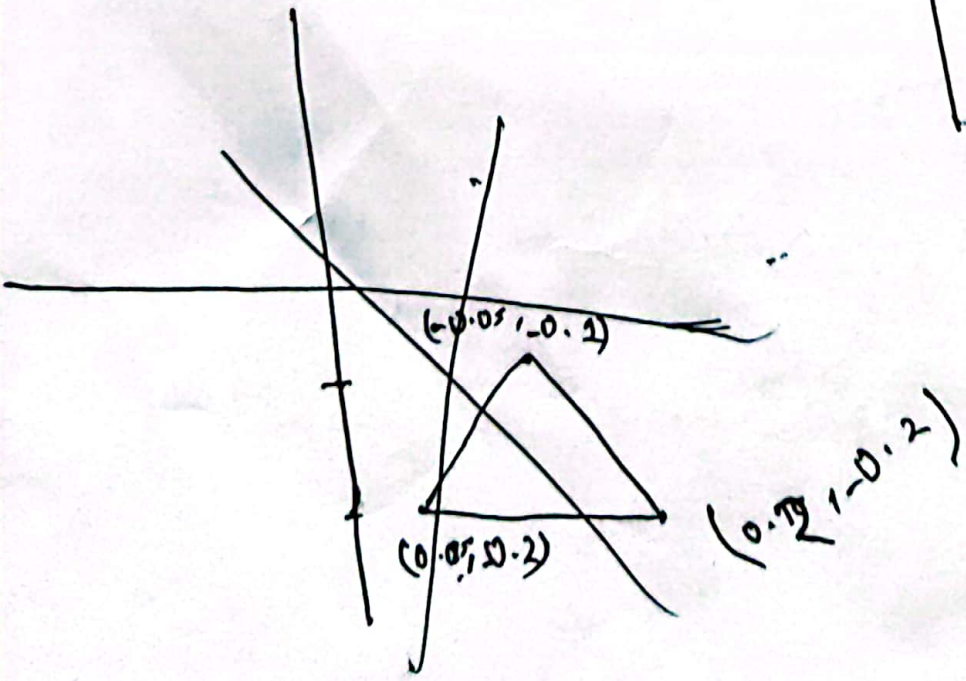

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