Assignment
of
Computer
Graphics CSE 421

Submitted to,

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Section: 54 E

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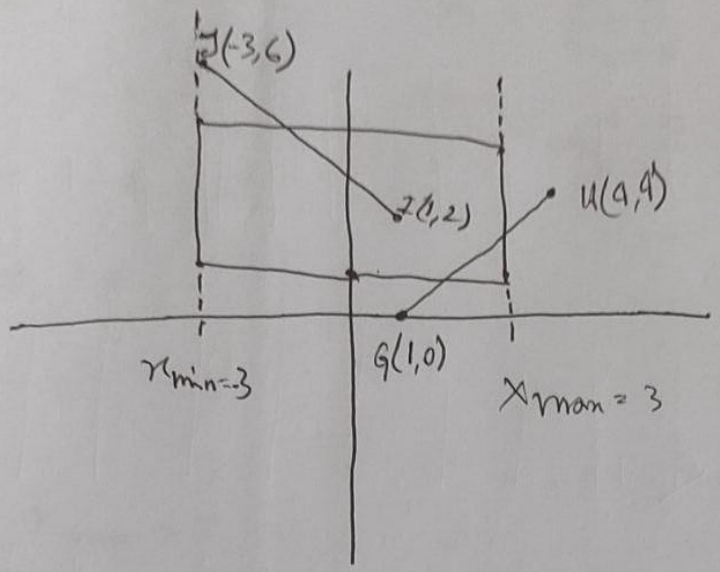
1) 2D Cliping

line cliping



Ans:

GH → cliping candidate

IJ → cliping candidate

Now, there are y value vertical clipping

$$x = x_{min} / x_{max}$$

$$m = \frac{y - y_1}{x - x_1}$$

$$\therefore y = m(x - x_1) + y_1$$

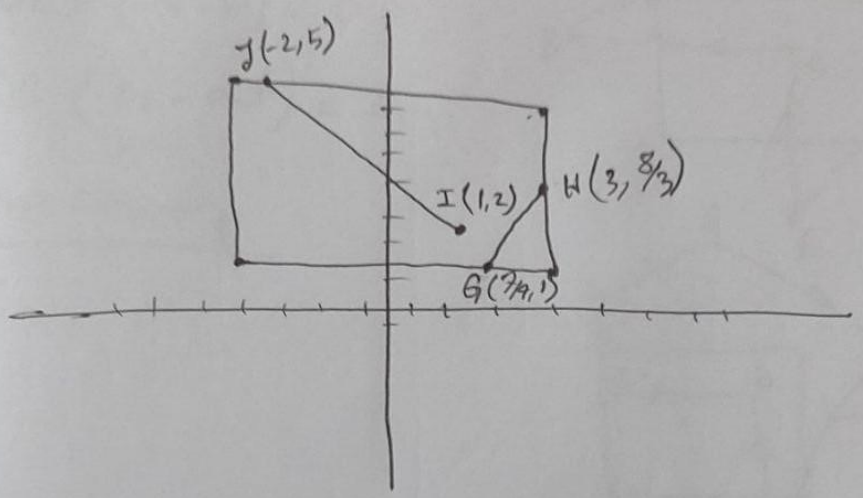
And x value of Horizontal clipping

$$y = y_{min} / y_{max}$$

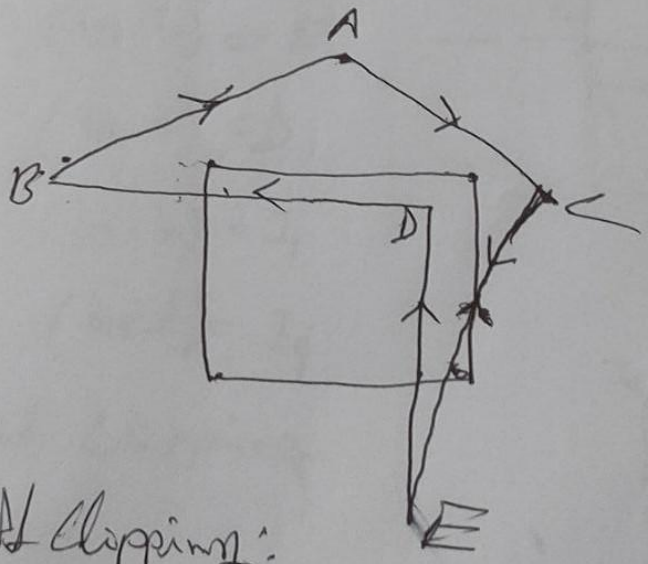
$$m = \frac{y - y_1}{x - x_1}$$

$$\therefore x = x_1 + \frac{y - y_1}{m}$$

Find 2D Clipping



Polygon Clipping

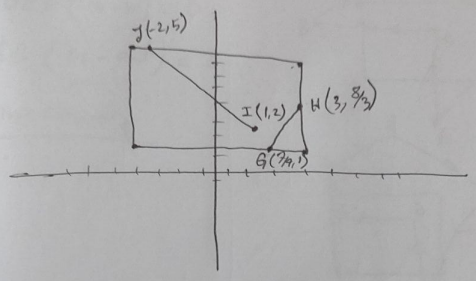


ms of Clipping:

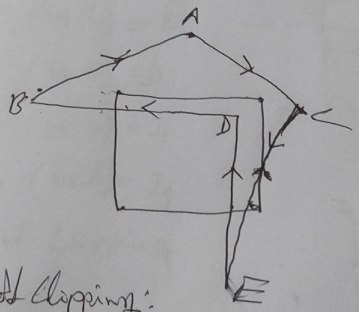
BA (out-in) = I_2A

AC (in-in) = C

Find 2D Clipping



Polygon Clipping

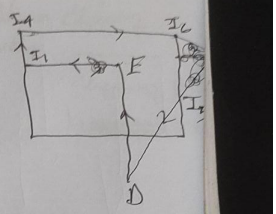


Ans Left Clipping:

BA (out-in) = I_2A

AC (in-in) = C

Right Bottom Clipping:



I_3C (out - out) = 0

CD (out - in) = I_5D

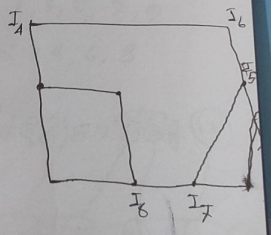
DE (in-in) = E

EI_1 (in-in) = I_1

I_1I_4 (in-in) = I_4

I_4I_3 (in - out) = I_6

Bottom Clipping:



(I_6·I_5) (in-in) = I_5

I_5D (in - in) = D

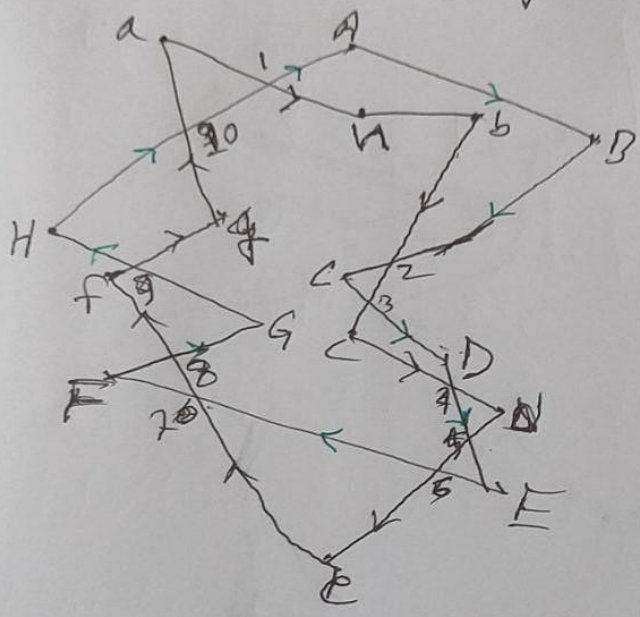
DE (out in) D = I_8E

EI_1 (in-in) = I_1

I_1I_4 (in-in) = I_4

I_4I_6 (in-in) = I_6

Weiler Atherton Polygon Clipping Algorithm



Clipping Poly

↳ ~~RANGLADES~~

Entering Intersect Point: 1, 3, 5, 7, 9

Exiting Intersect point: 2, 4, 6, 8

S.P → a 1 h b 2 3 C 4 d 5 6 e 7 8 9 g 10

Cp → ~~A B C D E F G H~~

B 2 C 3 D 4 5 E 6 F 8 G 9 H 10 1

1st polygon: ~~1a h2 H 3g 4 5 6 7 8~~

1 h b 2 3 C 4 d 5 E 6 F 8 9 G H 10.

Final ~~out~~ clipping:-