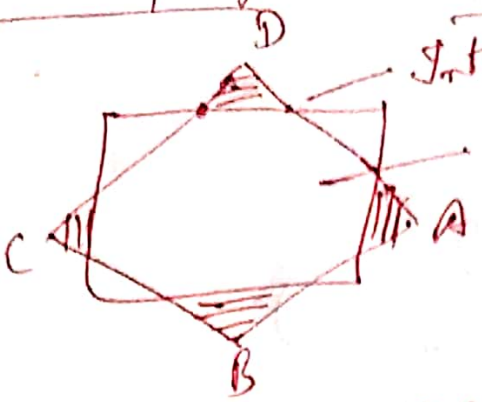
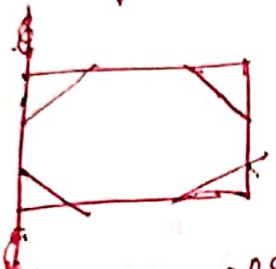
Sutherland Hodgeman Polygon Clipping Algorithm

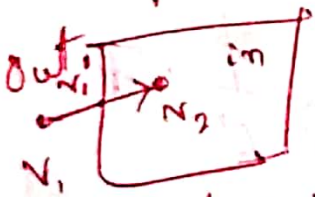


Order of Edges – LRBT or RBLT

① Left Clipping Right Bottom Top

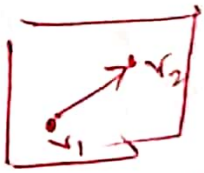


To find new sequence there are 4 cases to be considered



Out → in
o/p Intersect pt + Destination vertex
$V_1' V_2$

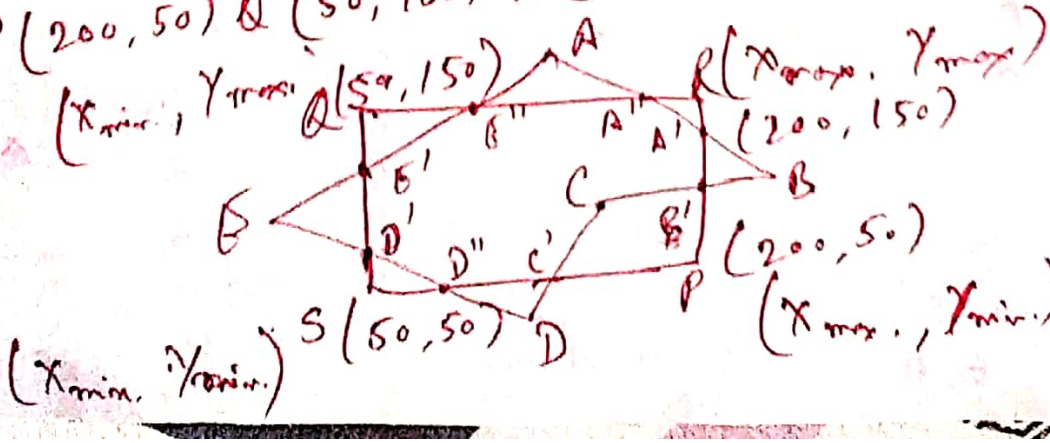
In → Out
o/p Intersect pt.
V_1'



In → in
V_2
Destination

Out → Out
None

① Clip polygon ABCDE against PQRS.
A(80, 200) B(220, 120) C(150, 100) D(100, 30) E(10, 20)
P(200, 50) Q(50, 150) R(200, 150) S(50, 50)



Scanned with CamScanner

Left Edge Clip

Vertex	Case	O/P
AB	in → in	B
BC	in → in	C
CD	in → in	D
DE	in → out	D'
EA	out → in	B'A

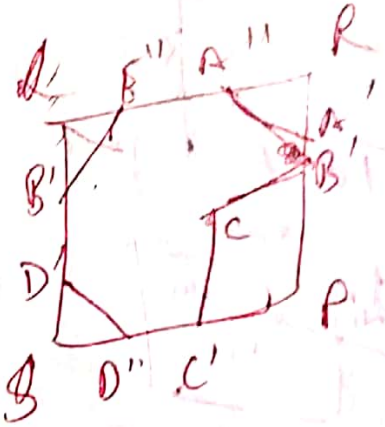
(E will not be considered)

New vertices

Right Clipping

Vertex	Case	O/P
AB	in → out	A'
BC	out → in	B'C
CD	in → in	D
DD'	in → in	D'
D'E'	in → in	E'
E'A	in → in	A

New



Bottom

Vertex	Case	O/P
AA'	in → in	A'
A'B'	in → in	B'
B'C	—	C
CD	—	C'
DD'	in → out	D''D'
D'E'	out → in	E'
E'A	in → in	A

New

Top

Vertex	Case	O/P
AA'	out → in	A''A'
A'B'	in → in	B'
B'C	—	C
CC'	—	C'
C'D''	—	D''
D''D'	—	D'
D'E'	—	E'
E'A	in → out	E''

New vertices

Scanned with CamScanner