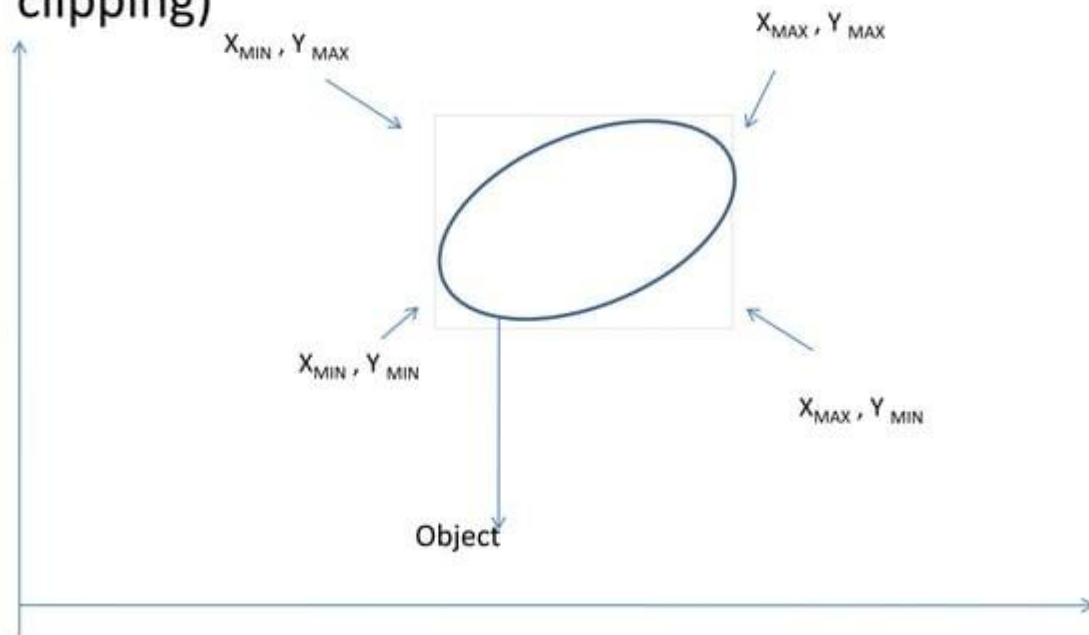


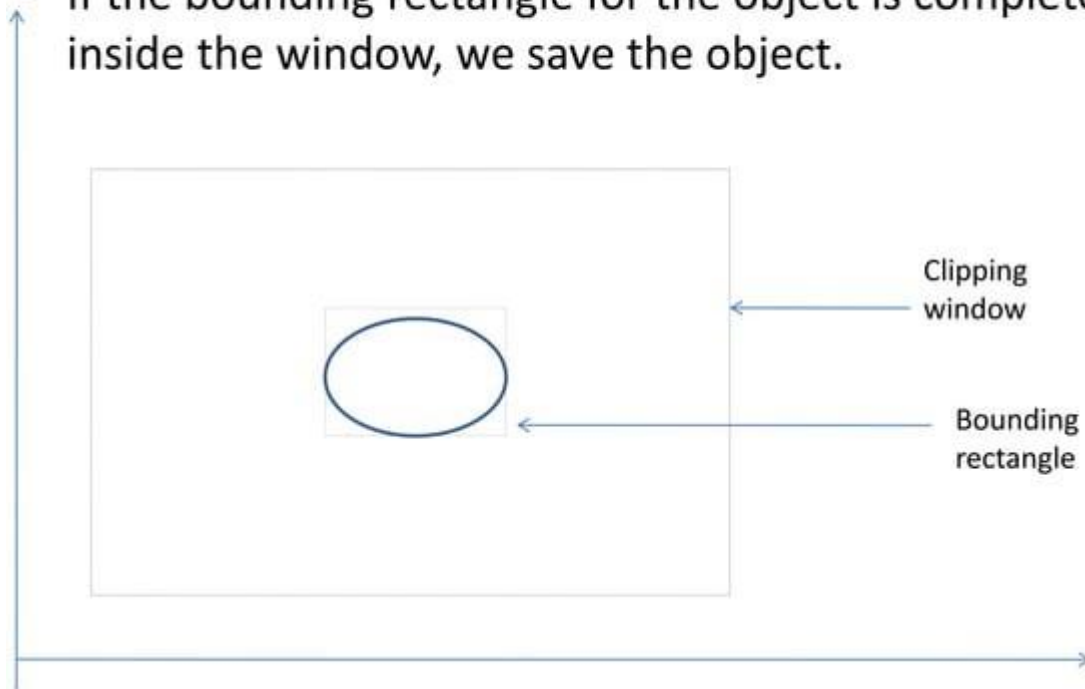
Curve clipping

- The bounding rectangle for a curved object can be used first to test for overlap with a rectangular clip window (we can use polygon clipping)



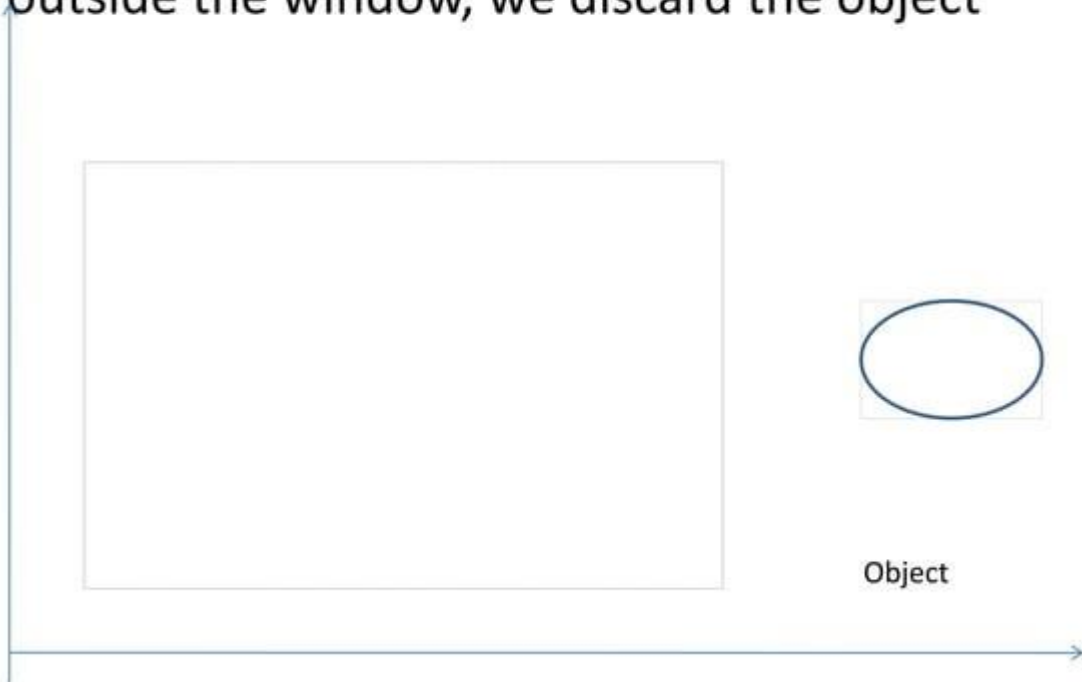
Case 1

- If the bounding rectangle for the object is completely inside the window, we save the object.



Case 2

- If the rectangle is determined to be completely outside the window, we discard the object



Case 3

- If the two regions overlap, we will need to solve the simultaneous line-curve equations to obtain the clipping intersection points.

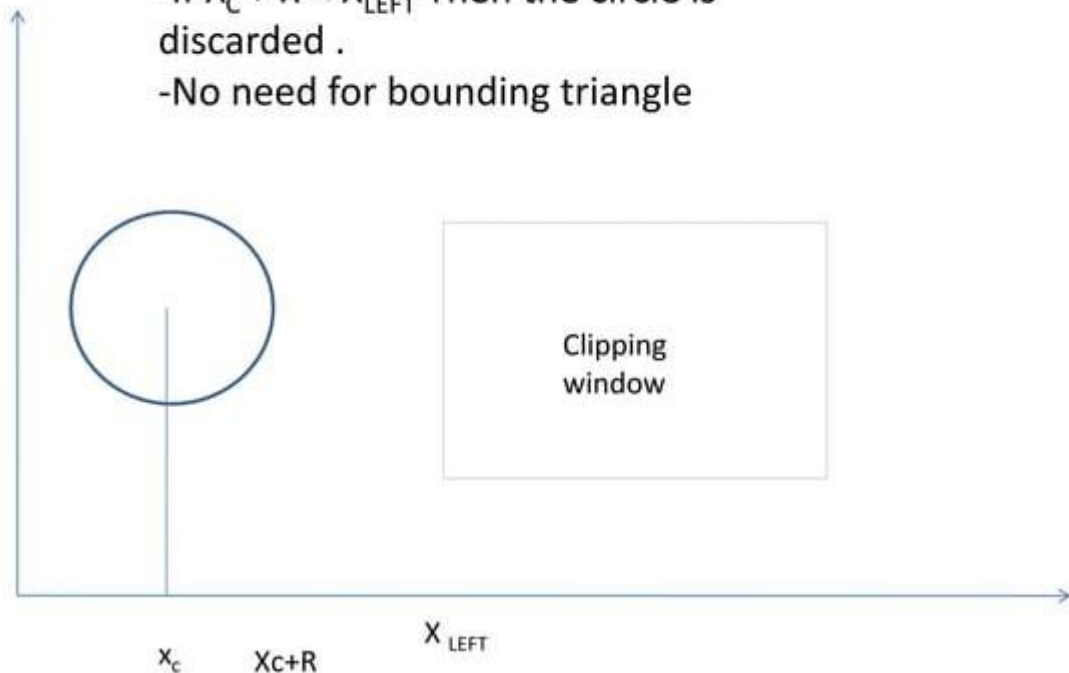
- finding intersection points by solving the curve and boundary equations simultaneously sometimes takes a long time.

- We have to consider special curves as circles and ellipses before solving the equations simultaneously.

Circle clipping

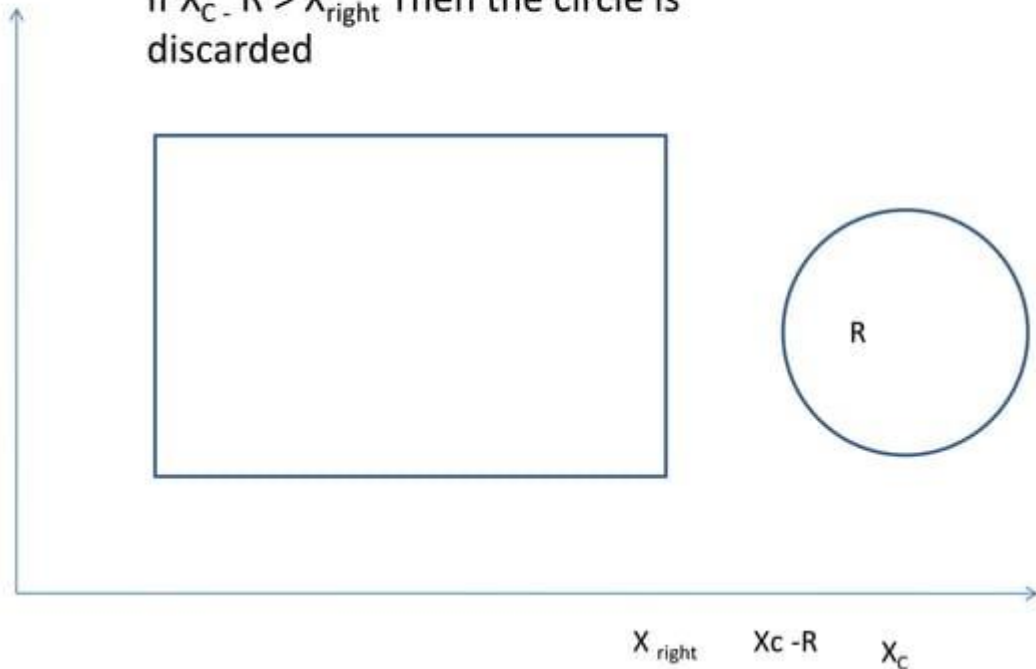
-If $X_C + R < X_{LEFT}$ Then the circle is discarded .

-No need for bounding triangle

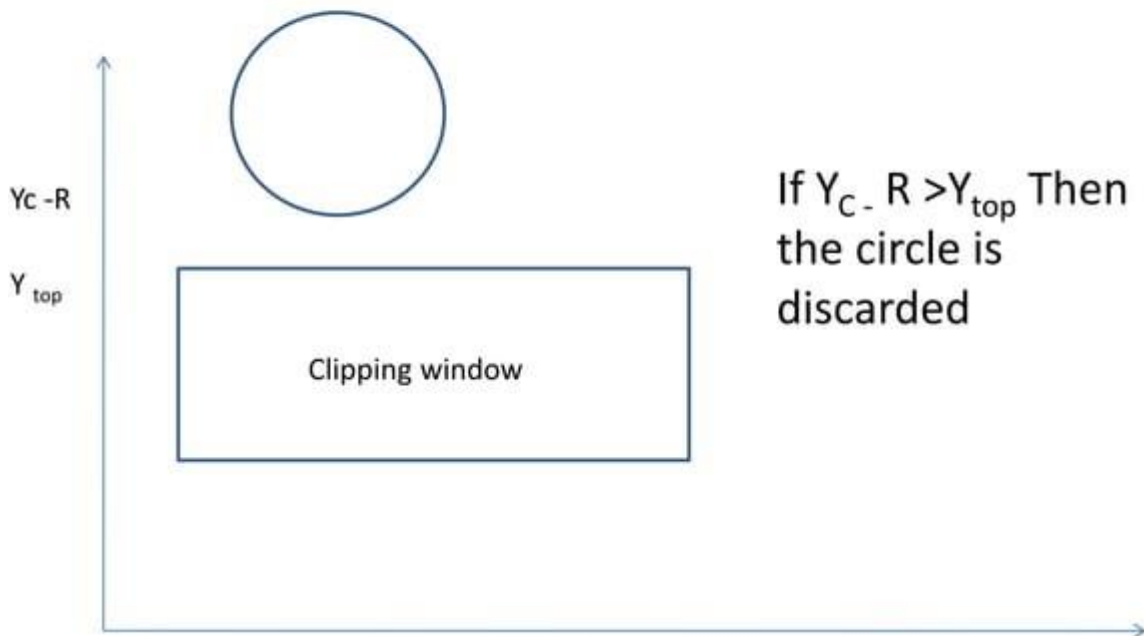


Circle clipping cont..

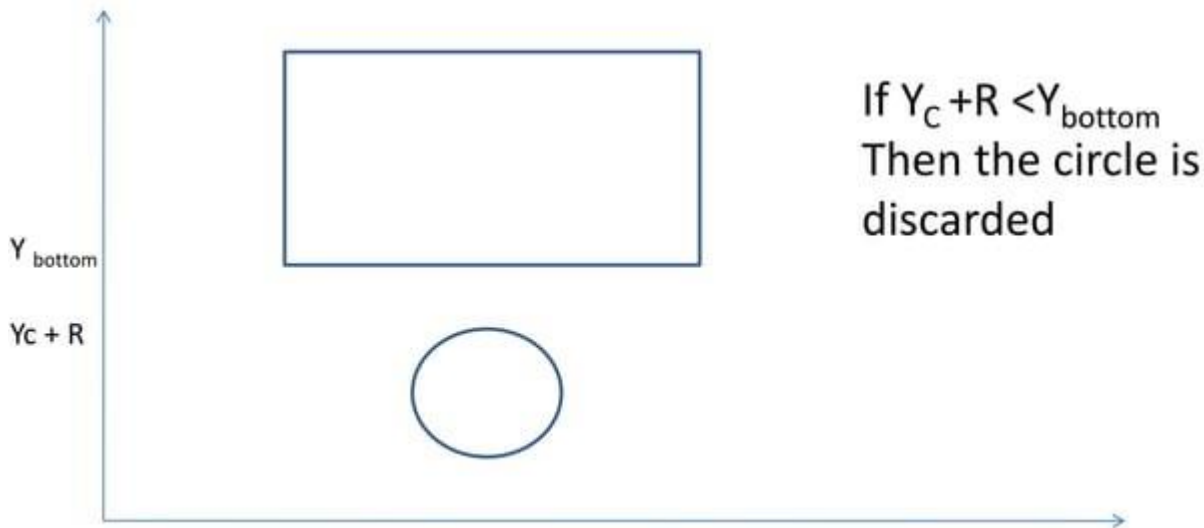
If $X_C - R > X_{right}$ Then the circle is
discarded



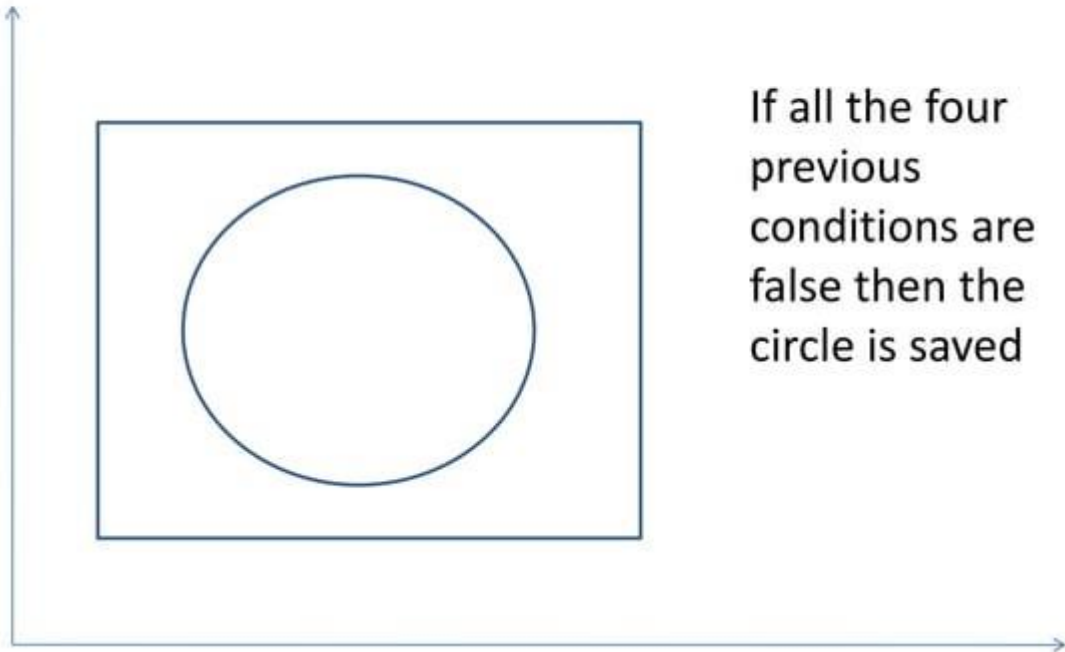
Circle clipping cont..



Circle clipping cont..

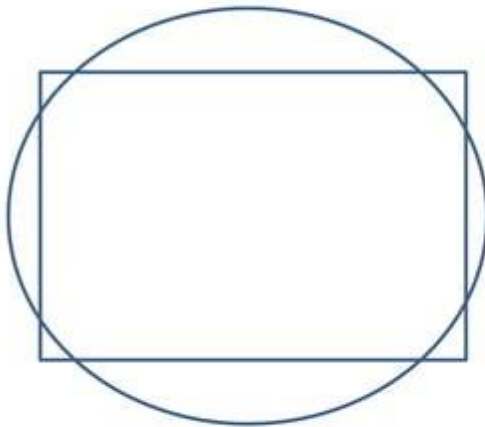


Circle clipping cont..



If all the four
previous
conditions are
false then the
circle is saved

Circle clipping cont..



Intersection conditions:

With right edge:
 $X_c + R > X_{right}$

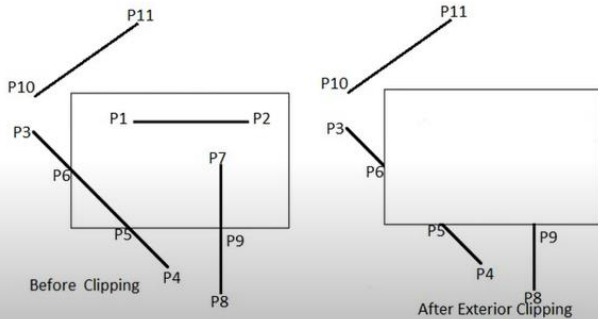
With left edge:
 $X_c - R < X_{left}$

With top edge :
 $Y_c + R > Y_{top}$

With bottom edge:
 $Y_c - R < Y_{bottom}$

Exterior Clipping

- ▶ In exterior clipping, we save the picture parts that are outside the rectangular clip window region and we clip (not to be displayed) the picture parts that are inside the clip window.
- ▶ Example:



Exterior Clipping

- ▶ In exterior clipping, we save the picture parts that are outside the rectangular clip window region and we clip (not to be displayed) the picture parts that are inside the clip window.
- ▶ Example:

