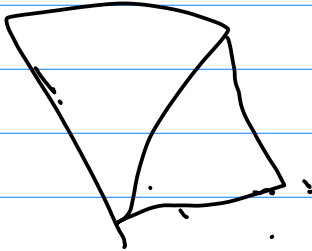


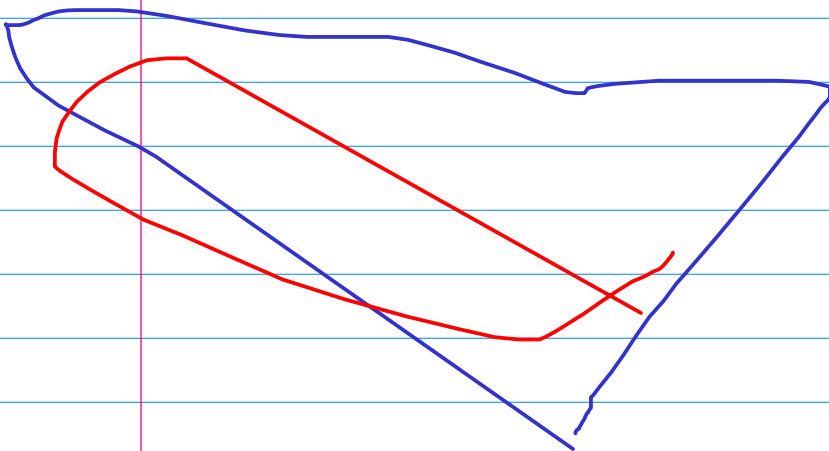
vector cross product not associative. $A \times (B \times C) \neq (A \times B) \times C$

resize callback is called continuously as you grab and move the window corner. You could check if the mouse key is down and not do anything. (Does this work?)



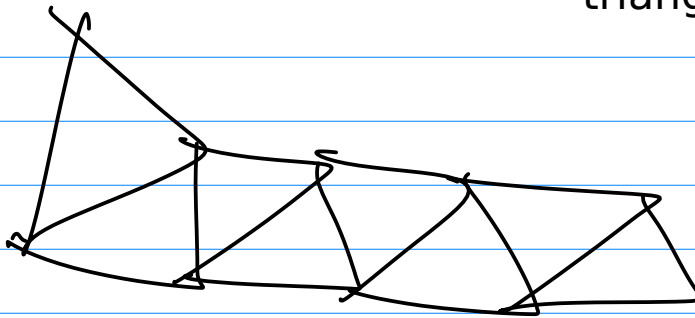
With triangle fan, each vertex adds a new triangle - compact, fast to transmit.

Depth buffer: each pixel contains distance to the object displayed at that pixel (initially a very large number for no object yet). When drawing a new object, check each pixel, and draw the object at that pixel only if it's closer than the previous object displayed there. Also update the depth buffer's depth.

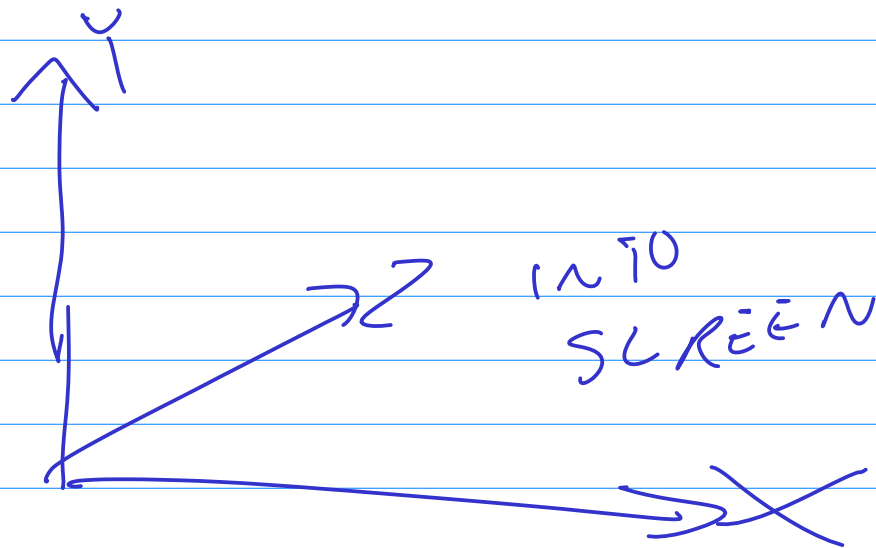


2

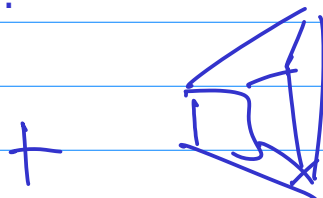
triangle strip



1st helix program spirals along in z. We're looking down z so it looks like a circle.
helix3 spirals along in y, so it looks like a zigzag.



glOrtho says that we're viewing a box, with projection lines parallel.
glFrustum says that we're viewing a frustum (truncated pyramid), with projection line converging. Farther objects appear smaller.



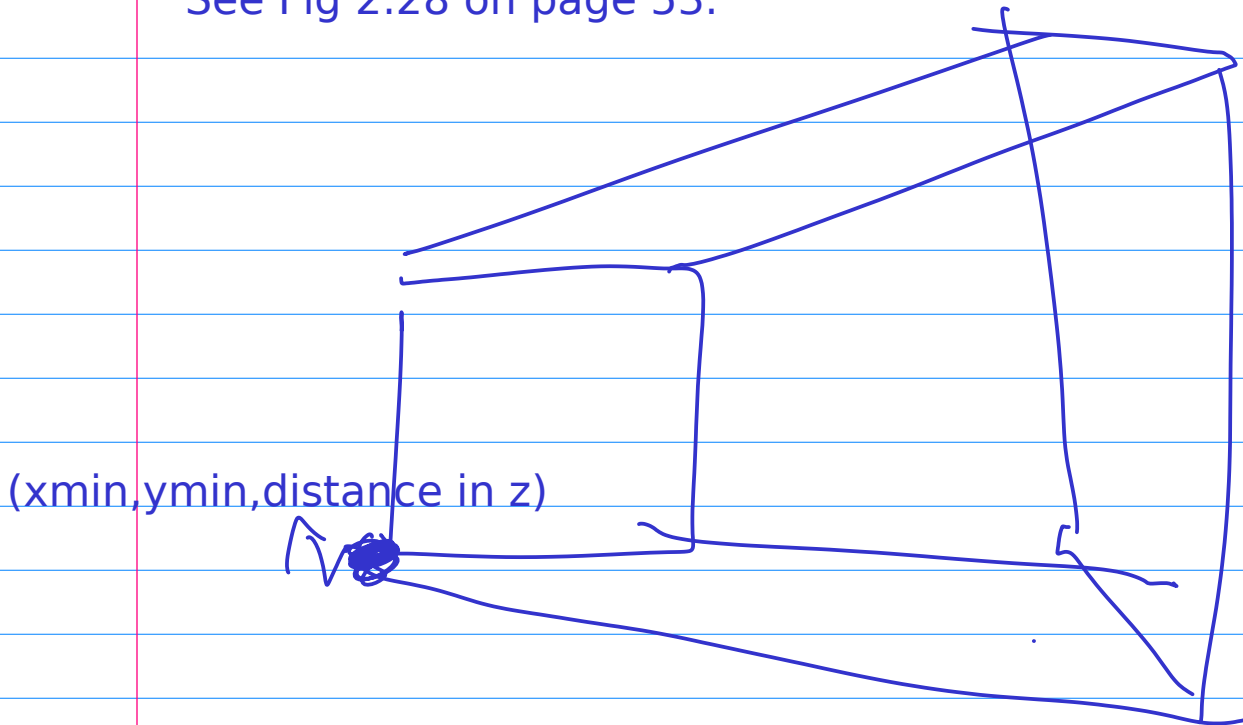
3

`glOrtho(xmin,xmax,ymin,ymax, znear,zfar)`

`znear`: distance to front face

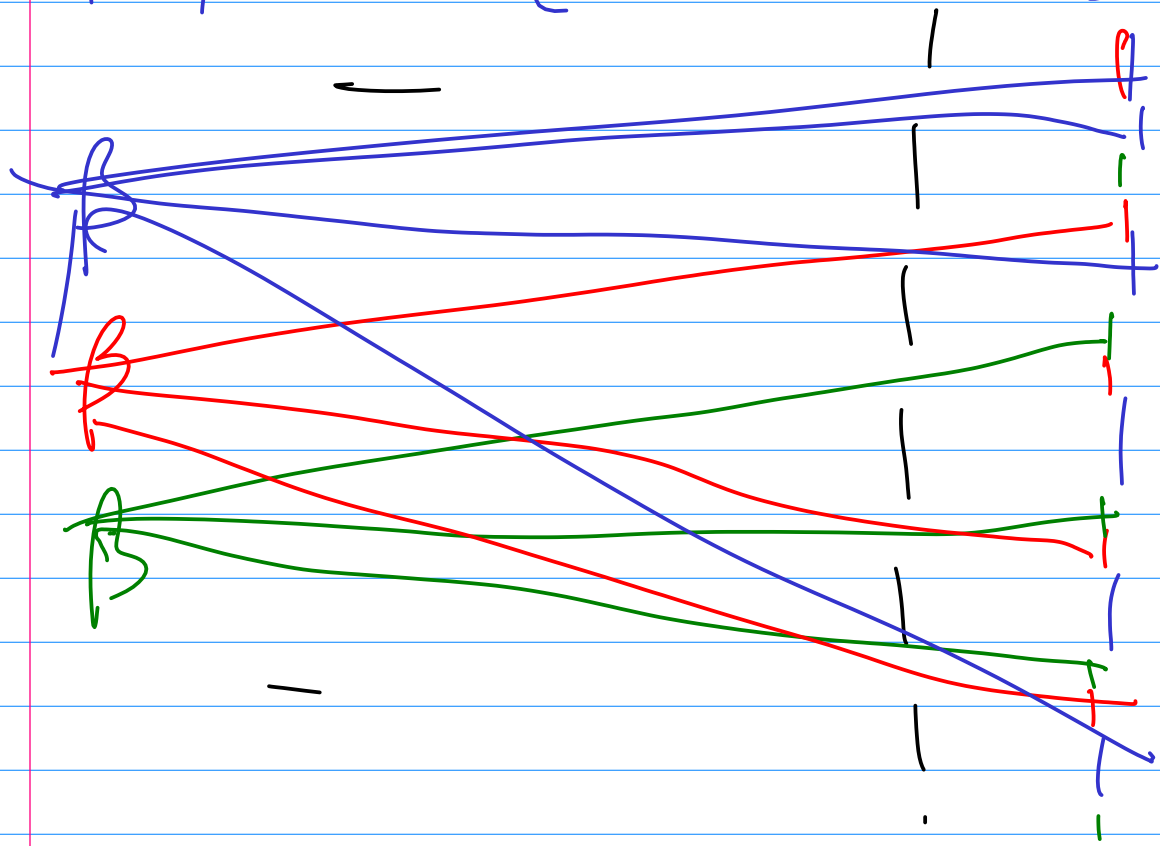
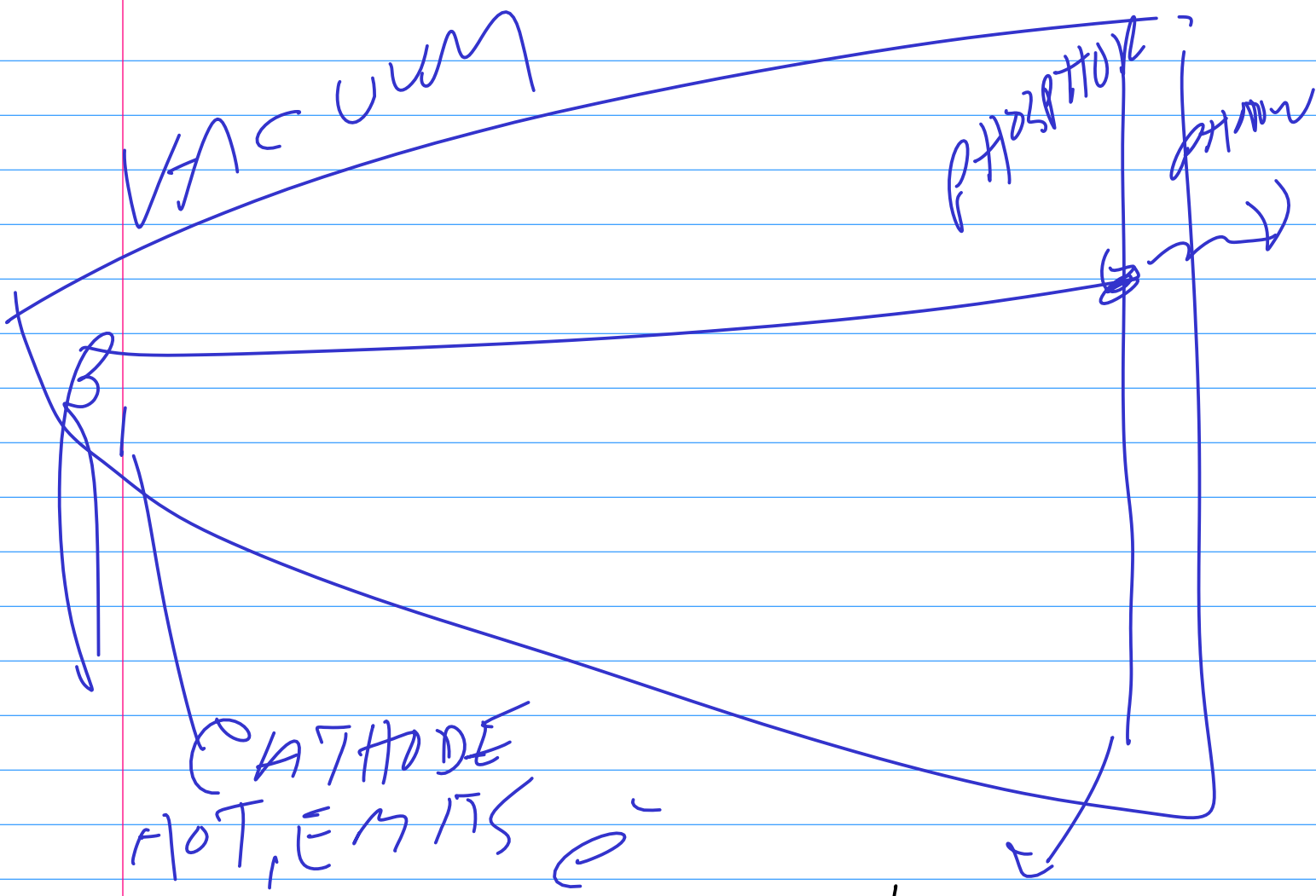
if camera is at $(0,0,0)$ `znear` is $-zmin$

See Fig 2.28 on page 53.



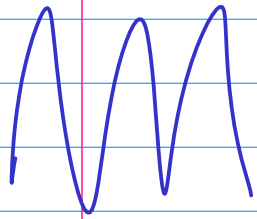
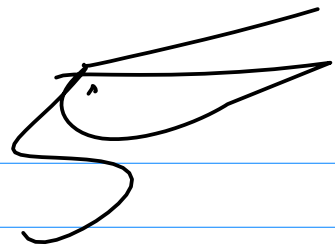
E.g. if front face has $z=-5$, put $+5$ as the argument to `glOrtho` or `glFrustum`.

Later we'll see the math of projections. A projection is a 4×4 matrix multiplication.

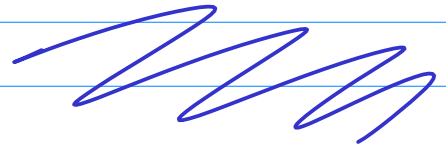
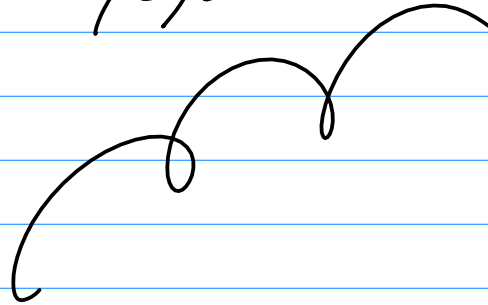


LED

SPIRAL MOLECULE



POLARIZED LIGHT



GETS ROTATED

