collision detection prototype

the world

later

later later

“easy” case

for now …

- ignore edge & vertex collision
- ignore collisions on the “back” of the triangle
why

- I'll give you code for edge and vertex collisions
- We'll make sure we can never collide with the back of a triangle

for now ...

- Ignore edge & vertex collision
- Ignore collisions on the "back" of the triangle

\( \mathbf{p}_0 \) is at least \( r \) units above the \( x-y \) plane and the ball is moving toward the \( x-y \) plane.

some tricks: projection

What is the projection of \((x,y,z)\) into the \( x-z \) plane?

\[(x,y,z) \rightarrow (?,?,?)\]

some tricks: in/out

\[z = ax + b\] is a line in the \( x-z \) plane of a right-handed coordinate system.

\[x\]

\[z\]

\[z = ax + b\]

If \((x_0,0,z_0)\) lies above the line then \(z_0 > ax_0 + b\).
a useful trick

\[ z = ax + b \]

If \((x_0, y_0, z_0)\) lies below the line then \(z_0 < ax_0 + b\)

collision prototype

- I can set the ball's initial position
- I can set the ball's initial velocity
- I can set the ball in motion. It stops when there is a front face collision or it leaves the screen.

collision prototype cont.

- due thursday 10/23
- you'll submit your code (use cs121submit) and demo in class
- start from the test harness