CSE-4303 CSE5365 Computer Graphics
Practice Clipping

Clip line AB **A(10.2 , 4.6 , -7.4)** , **B(-9.8 , -3.4 , 8.6)** against the standard perspective viewing volume with **zmin=0.1**

You must specify your reason for accept or rejecting an intersection point.

Equation of line AB

Plane	t	Intersection point (x,y,z)	Accept or Reject	Reason to accept or reject
x = -z				
x = z				
y=-z				
y=z				
z=0.1				
z=1				

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Consider points $A = (\mathbf{2},\ \mathbf{7.3}\ , -\mathbf{0.5})$ and $B = (-\mathbf{2}\ , -\mathbf{6.7}\ ,\ \mathbf{1.5}\ )$.

Clip line AB against the unit cube planes

Show the equation of line AB

Equation of line AB

Find the clipped coordinates (if the line AB does not have a valid intersection with the unit cube say "**reject**" as your answer and explain your reason.)

Plane	t	Intersection point (x,y,z)	Accept or Reject	Reason to accept or reject
x = 0				
x =1				
y=-0				
y=1				
z=0				
z=1				

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1. Clip line AB **A(9.8, -6.9, 6.2)** , **B(-10.2 , 7.1 , -5.8)**
   against the standard canonical perspective viewing volume. Assume $z_{min} = 0.6$

Equation of line AB

Plane	t	Intersection point (x,y,z)	Accept or Reject	Reason to accept or reject
x = -z				
x = z				
y=-z				
y=z				
z=0.6				
z=1				

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Clip line AB **A(7, -1, -2.5)** , **B(-60 , 8 , 25)**

against the standard canonical perspective viewing volume. Assume $z_{min} = 0.6$

Equation of line AB

Plane	t	Intersection point (x,y,z)	Accept or Reject	Reason to accept or reject
x = -z				
x = z				
y=-z				
y=z				
z=0.6				
z=1				

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Clip line AB **A(-0.4,0.7,0.8)**, **B(-3, -1, -3.6)**

against the standard perspective viewing volume defined as:

front plane **z=0.5** Back plane **z=1**

side planes **z=-x** and **z=x**

Bottom plane **z=-y** Top plane **z=y**

Equation of line AB

Plane	t	Intersection point (x,y,z)	Accept or Reject	Reason to accept or reject
x=z				
x=-z				
y=z				
y=-z				
z=1				
z=zmin				