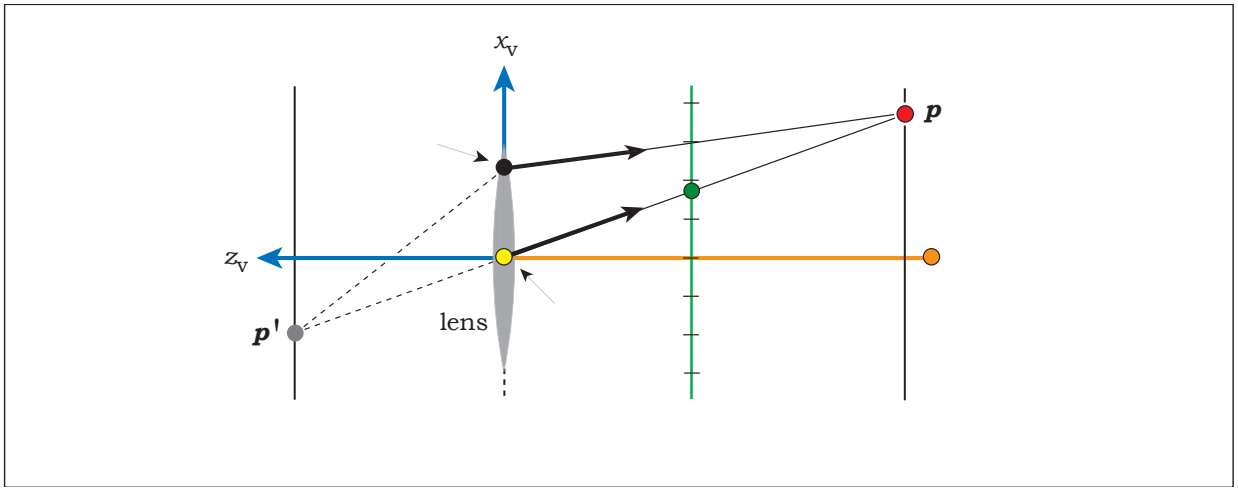
CS 419: Production Rendering Fall 2018
In-class Worksheet 3

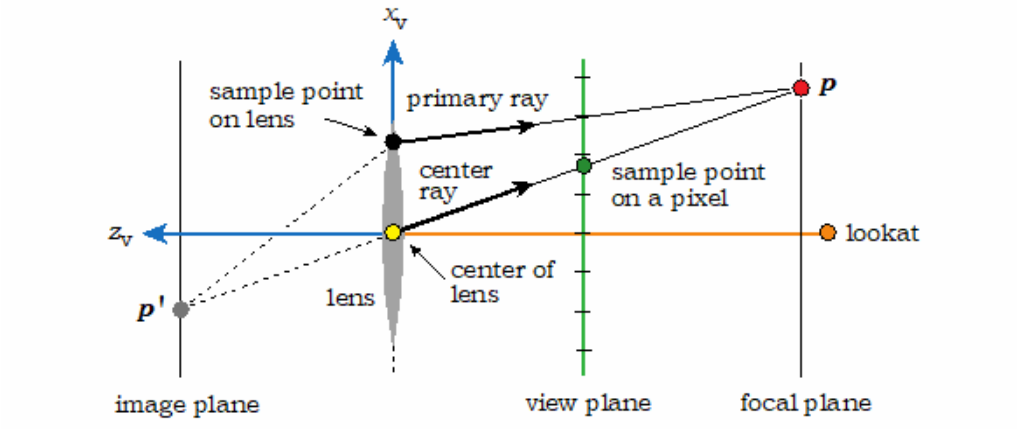
Depth of Field



1. Names of Things

Label the elements of the picture with the following:

a. Image plane
b. View plane
c. Center ray
d. Primary ray
e. Pixel
f. Focal plane
g. Lookat point



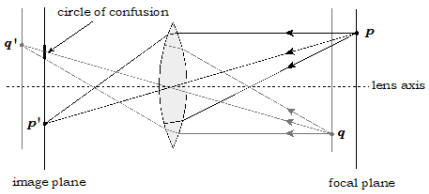
2. Sampling for Depth of Field

With a partner, do the following:

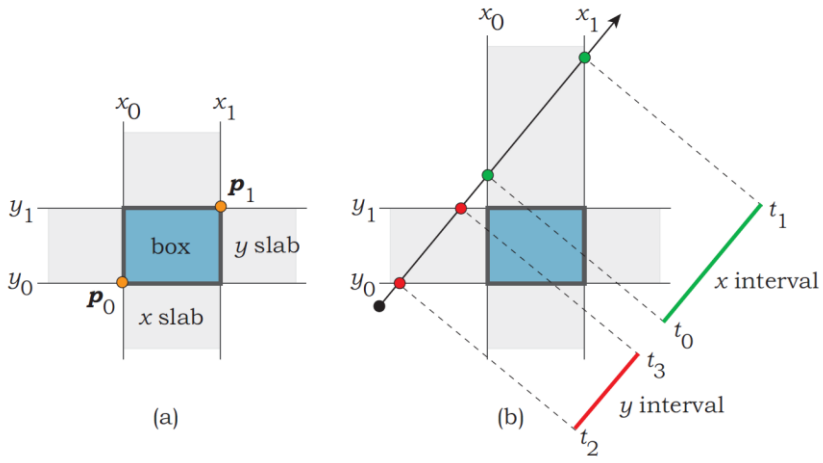
a. Come up with an explanation for why it makes sense that primary rays for a pixel need not pass through the pixel when simulating depth of field.

b. Draw a picture supporting your explanation.

We are simulating the effect of a lens, which means the light will no longer travel in a straight line



3. Bounding Box Intersection



Describe an efficient test for ray-box intersection in 2D that uses the values t_i as shown in the diagram above.

Check if largest entering t value is less than smallest exiting t value