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                                       lidar_classdef
import math #Imports math to do trig calculations

class lidar: #Definition of a new class called lidar
        def __init__(self, input_horz_ang=0, input_vert_ang=0, radius=0):
                horz_ang=math.radians(input_horz_ang) #converts the horizontal angle
from degrees to radians
                vert_ang=math.radians(input_vert_ang) #converts the vertical angle
from degrees to radians

                self.z_pos = -radius*math.cos(vert_ang) #Calculates the length of
the position vector projected on the z-axis
                self.y_pos = radius*math.sin(vert_ang)*math.sin(horz_ang)
#Calculates the length of the position vector projected onto the y axis
                self.x_pos = radius*math.sin(vert_ang)*math.cos(horz_ang)
#Calculates the length of the position vector projected onto the x axis

        def display_data(self): #Instance method to display the data encapsulated in
the lidar object

                print "X Position = ", self.x_pos
                print "Y Position = ", self.y_pos
                print "Z Position = ", self.z_pos
```