import numpy as np

import matplolib.pyplot as plt

def create\_figure\_with\_axes(

e1=np.array([1,0,0]),

e2=np.array([0,1,0]),

e3=np.array([0,0,1]),

origin=np.array([0,0,0,1]),

fig\_size=(10,5),

xlim=[-2,2],

ylim=[-2,2],

zlim=[-2,2]):

# create axes

axes = plt.axes(projection='3d')

axes.set\_xlim(xlim)

axes.set\_xlabel("x axis")

axes.set\_ylim(ylim)

axes.set\_ylabel("y axis")

axes.set\_zlim(zlim)

axes.set\_zlabel("z axis")

# plot arrows

axes.quiver(point[0],point[1],point[2],e1,0,0,color='red',pivot='tail', length=1.5)

axes.quiver(point[0],point[1],point[2],0,e2,0,color='green',pivot='tail', length=1.5)

axes.quiver(point[0],point[1],point[2],0,0,e3,color='blue',pivot='tail', length=1.5)

return axes