```
import numpy as np
import matplotlib.pyplot as plt

l1 = 1
l2 = 1

def fk(q1,q2):

    x0,y0 = 0, 0
    x1 = l1 * np.cos(q1)
    y1 = l1 * np.sin(q1)
    x2 = x1 + l2 * np.cos(q1 + q2)
    y2 = y1 + l2 * np.sin(q1 + q2)

    return [x0, x1, x2], [y0, y1, y2]

configs = [[0,0],[(np.pi)/4,0],[(np.pi)/8,(np.pi)/8]]

plt.figure(figsize=(6,6))

for [q1,q2] in configs:
    x, y = fk(q1, q2)
    plt.plot(x, y, marker='o')

plt.axhline(0)
plt.axvline(0)
plt.grid()
plt.legend()
plt.xlabel("X")
plt.ylabel("Y")
plt.axis("equal")
plt.show()
```

/tmp/ipython-input-3787375897.py:28: UserWarning: No artists with labels found to put in legend.  Note that artists whose label start with an underscore are ignored when legend() is called with no argument.
  plt.legend()