a)

x1 = l1 cosθ1

y1 = l1 sinθ1

x2 = x1 + l2 cos(θ1 + θ2)

y2 = y1 + l2 sin(θ1 + θ2)

x3 = x2 + l3 cos(θ1 + θ2 + θ3)

y3 = y2 + l3 sin(θ1 + θ2 + θ3)

x4 = x3 + l4 cos(θ1 + θ2 + θ3 + θ4)

y4 = y3 + l4 sin(θ1 + θ2 + θ3 + θ4)

xcp = 4\*l1 cosθ1 + 3\*l2 cos(θ1 + θ2) + 2\*l3 cos(θ1 + θ2 + θ3) + l4 cos(θ1 + θ2 + θ3 + θ4)

ycp = 4\*l1 sinθ1 + 3\*l2 sin(θ1 + θ2) + 2\*l3 sin(θ1 + θ2 + θ3) + l4 sin(θ1 + θ2 + θ3 + θ4)