Problem 10.039

$C_x=0$

$C_y=P/3$

Assuming in Robot $P=10$, the answers are exactly the same as worked by hand.
$- \sum F_x = C_x = 0$

$\sum F_y = A + C_y - B = 0$

$\sum M_y = B(\frac{L}{2}) - C_y(L) = 0$

$V_x = \frac{PL}{2EI} + \frac{BL^2}{2EI}$

$V_y = -\frac{BL^2}{9EI}$

$\frac{BL^2}{9EI} = \frac{BL^2}{24EI} - \frac{PL^2}{24EI}$

$-\frac{B}{2} = B - P$

$-\frac{3B}{2} = P$

$P = \frac{2B}{3}$

$0 = B(\frac{L}{2}) - C_y(L)$

$C_y(L) = \frac{2P \phi_4}{\frac{B}{2}}$

$C_y = \frac{B}{3}$