Solution27_10:

Since we want current along the x-axis we have to figure what is the cross sectional area perpendicular to this axis across which the current flows. Therefore we take the face of the cube parallel to the y-z plane.

Current along x-axis, $I_x = J_x \cdot 1 \text{ cm}^2 = A$ amps.

Similarly , $\qquad\qquad I_y = B$ Amps. Etc.