$$Intrinsic\ Matrix = \begin{bmatrix} f_x & s & x \\ 0 & f_y & y \\ 0 & 0 & 1 \end{bmatrix}$$

f_x , f_y are focal lengths of camera in X and Y directions.

s is the axis skew which is usually 0.

$x = 640$, $y = 480$ are the X and Y dimensions of the image.

$a_x = 90$ is field of view.

$$f_x = \frac{x}{\tan(\frac{a_x}{2})}$$

$$= \frac{640}{1.62}$$

$$= 395.06$$

$$f_y = \frac{y}{\tan(\frac{a_x}{2})}$$

$$= \frac{480}{1.62}$$

$$= 296.29$$

$$Intrinsic\ Matrix = \begin{bmatrix} 395.06 & 0 & 640 \\ 0 & 296.29 & 480 \\ 0 & 0 & 1 \end{bmatrix}$$