$x = [-256, \ldots, -1, 0, 1, \ldots, 256]$

index = $1, \ldots, 256, 257, 258, \ldots, 513$

$y = [-256, \ldots, -1, 0, 1, \ldots, 256]$

index = $1, \ldots, 256, 257, 258, \ldots, 513$

M_x

$$\begin{matrix} (1) & -256, \ldots, -1, 0, 1, \ldots, 256 \\ & \vdots \\ (513) & -256, \ldots, -1, 0, 1, \ldots, 256 \end{matrix} \quad \Big\} \; 513 \text{ veces}$$

$M_y = M_x^T$

$$\begin{matrix} -256 \\ \vdots \\ -1 \\ 0 \\ 1 \\ \vdots \\ 256 \\ (1) \end{matrix} \quad \cdots \quad \begin{matrix} -256 \\ \vdots \\ -1 \\ 0 \\ 1 \\ \vdots \\ 256 \\ (513) \end{matrix}$$

513 veces

$$R = \sqrt{M_x^2 + M_y^2}$$

Ej.

(a) $\sqrt{M_x(1,1)^2 + M_y(1,1)^2}$

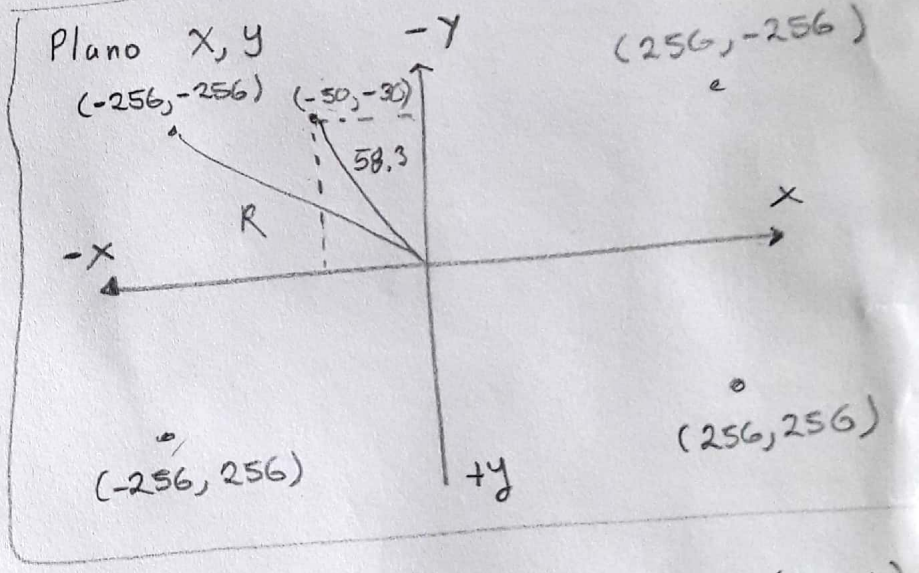
$= \sqrt{(-256)^2 + (-256)^2}$

$= 362.03$

(b) $\sqrt{M_x(207)^2 + M_y(227)^2}$

$= \sqrt{(-50)^2 + (-30)^2}$

$= \sqrt{2500 + 900} = 58.30$



Uniendo M_x y M_y

$i = \; (1,1) \quad (2,1) \quad \ldots \quad (256,1) \; (257,1) \; (258,1) \; \ldots \; (513,1)$

$$\begin{matrix} (-256,-256) & (-255,-256) & \cdots & (-1,-256) & (0,-256) & (1,-256) & \cdots & (256,-256) \\ \vdots & & & \vdots & & & & \vdots \\ (-256,-1) & (-255,-1) & \cdots & (-1,-1) & (0,-1) & (1,-1) & \cdots & (256,-1) \\ (-256,0) & (-255,0) & \cdots & (-1,0) & (0,0) & (1,0) & \cdots & (256,0) \\ \vdots & & & \vdots & & & & \vdots \\ (-256,256) & (-255,256) & \cdots & (-1,256) & (0,256) & (1,256) & \cdots & (256,256) \end{matrix}$$

Mx.^2

$(-256)^2$ $(-255)^2$ ... $(-1)^2$ $(0)^2$ $(1)^2$ ... $(256)^2$

⋮ ⋮

$(-256)^2$ (-255) ... $(-1)^2$ $(0)^2$ $(1)^2$ ... $(256)^2$

513 renglones

513

My.^2

$(-256)^2$ ... $(-256)^2$

$(-255)^2$ $(-255)^2$

⋮ ⋮

$(-1)^2$ $(-1)^2$

$(0)^2$ $(0)^2$

$(1)^2$ $(1)^2$

⋮ ⋮

$(255)^2$ $(255)^2$

$(256)^2$ ... $(256)^2$

513

$\sqrt{Mx.^2 + My.^2}$

513

$\sqrt{(-256)^2+(-256)^2}$ $\sqrt{(-255)^2+(-256)^2}$ ...

(1, 1) (1, 2)

$\sqrt{(-256)^2+(-255)^2}$ $\sqrt{(-255)^2+(-255)^2}$

(2, 1) (2, 2)

⋮ ⋮

$\sqrt{(-256)^2+(256)^2}$

(513, 1)

Corregir signo y.

$y = \frac{512}{2} : 1 : \frac{-512}{2}$