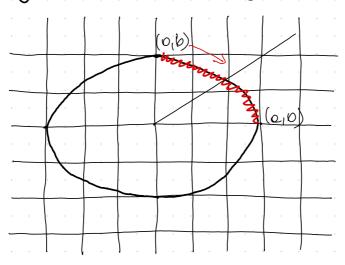
Algorytus Bresenheure ysonomie elipsy



$$\frac{x^2}{0^2} + \frac{y^2}{6^2} - 1 = 0$$

$$F(x_1y) = o^2b^2(\frac{x^2}{o^2} + \frac{y^2}{b^2} - 1)$$

$$= b^2x^2 + a^2y^2 - a^2b^2$$

 $F(x_iy) = 0$ - purilit leag us elipsie $F(x_iy) > 0$ - purilit leag posse elipson $F(x_iy) < 0$ - purilit leag wewingth elipsy

$$dx = \frac{\partial F}{\partial x} = 2b^{2}x$$

$$dy = \frac{\partial F}{\partial y} = 20^{2}y$$

$$(x_i, y_i) \qquad (x_i + 1, y_i)$$

$$M(x_i + 1, y_i - \frac{1}{2})$$

$$(x_i + 1, y_i - 1)$$

$$F(M) = F(x_i + 1, y_i - \frac{1}{2})$$

$$F(M) = F(x_i'+1, y_i-\frac{1}{2})$$

$$F(M) > 0 => (x_{i+1}, y_{i+1}) = (x_{i}+1, y_{i}-1)$$

$$F(M) < 0 => (x_{i+1}, y_{i+1}) = (x_{i}+1, y_{i})$$

 $0l_0 = F(0+1, b-\frac{1}{2}) = b^2 + 0^2(-b+\frac{1}{4})$ $F(M) \le 0 \implies d_{i+1} = d_i + 2b^2 \times_{i+1} + b^2 = d_i + d_{i+1} + b^2$

 $F(M) > 0 = > d_{i+1} = d_{i} + 2b^{2} \times_{i+1} - 2o^{2} y_{i+1} + b^{2}$

= di+ dxi+1 - dyi+1 + 62

$$(x_{i}, y_{i}-1) \qquad (x_{i}+1, y_{i}-1)$$

$$M = (x_{i}+x_{i}, y_{i}-1)$$

$$F(M) = F(x_{i}+x_{i}, y_{i}-1)$$

$$M = F(x_i + \xi_i, y_i - 1)$$

 $M > 0 = (x_i + \eta_i, y_i + \eta_i)$

 $ol_0 = ol_0 + b^2(-x_i - \frac{3}{4}) + o^2(-y_i + \frac{3}{4})$ $F(M) \le 0 \implies ol_{i+1} = ol_{i} + 2b^2x_{i+1} - 2o^2y_{i+1} + o^2$ $= ol_i + ol_{x_{i+1}} - ol_{y_{i+1}} + o^2$

= di-dying + 0

F(M)>0 => di+1 = di-20 yi+1 + 02

$$F(M) = F(x_i + z_i y_i - 1)$$

 $F(M) > 0 => (x_{i+1}, y_{i+1}) = (x_{i}, y_{i} - 1)$
 $F(M) \le 0 => (x_{i+1}, y_{i+1}) = (x_{i+1}, y_{i-1})$

Algorytu neriony ysonomie elipsy

$$\frac{x^{2}}{0^{2}} + \frac{y^{2}}{0^{2}} = 1$$

$$y^{2} = b^{2} \left(1 - \frac{x^{2}}{0^{2}}\right)$$

$$y = \frac{1}{5} b \sqrt{1 - \left(\frac{x}{0}\right)^{2}}$$