Haugh transform (Boundry detect, edge detect)

Remove (Crop) automatically.

Using haugh transform show that the point ~~are colinear and~~ (1,1) (2,2) and (3,3) are Colinear and find the eqn of line

Haugh work on m-c plane

$$y = mx + C \quad (x, y) \text{ plane}$$

$$c = -mx + c \quad (m\text{-}c) \text{ plane}$$

for $(x, y) = 1, 1 \Rightarrow c = -m + 1$

if $c = 0$ $[0, m = 1]$ $m = 1$

if $m = 0$ $[0 \quad c = 1]$ $c = 1$

Thus $(m, c) = (1, 1)$

$c = -mx + c$ $\qquad c = -2m + 2$

for $(x, y) = (2, 2)$

if $c = 0$ $\begin{cases} 0, & m = -\frac{2}{2} = 1 \end{cases}$

if $m = 0$, $c = 2$.

Thus $(m, c) = (1, 2)$

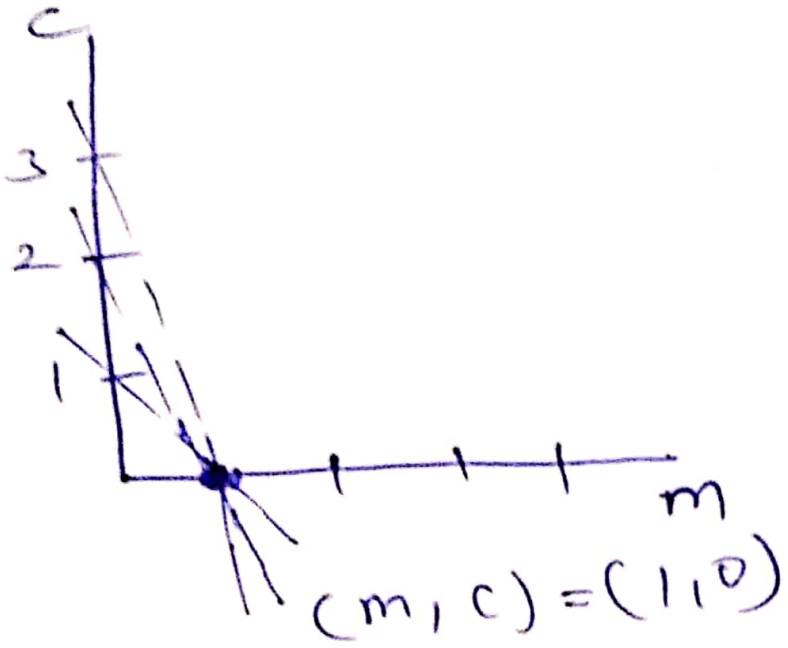
for $(x, y) = (3, 3)$, $c = -3m + 3$

if $c = 0$, $m = \frac{-3}{3} = 1$

$m = 0 \qquad c = 3$

if $(m, c) = (1, 3)$

$(m, c) = (1, 1), (1, 2), (1, 3)$



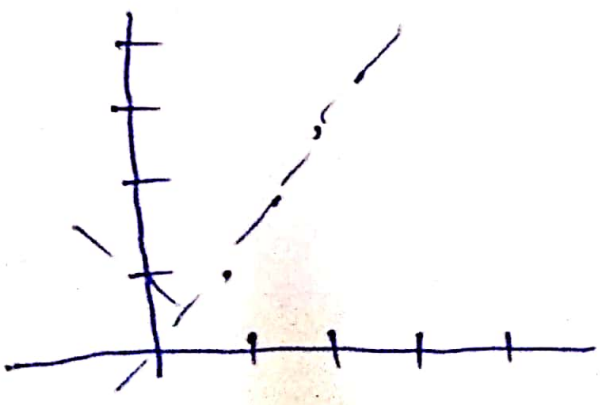
$(m, c) = (1, 0)$

The original eqn of line

$$y = mx + c \quad (m=1,\ c=0)$$

$$y = x \quad (\text{eqn of line})$$

it show that point (1,1), (2,2) and (3,3) are colinear)



The eqn $y = (3x + 1)$

show that point $(0,1)$, $(1,4)$ and $(-1,-2)$ are collinear