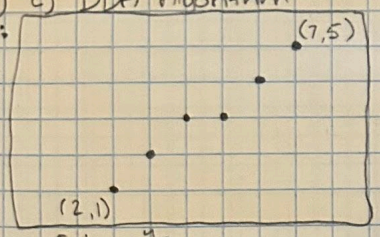
2) i) DDA Algorithm

Line 1:



$m = \frac{5-1}{7-2} = \frac{4}{5}$

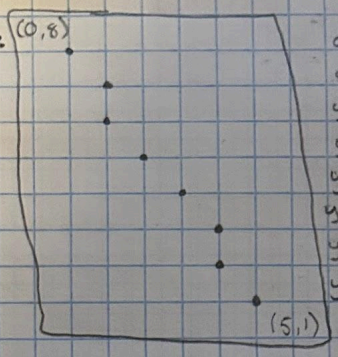
$y(3) = 2 + \frac{4}{5} = 2\frac{4}{5} \simeq 3$

$y(4) = 2\frac{4}{5} + \frac{4}{5} = 3\frac{3}{5} \simeq 4$

$y(5) = 3\frac{3}{5} + \frac{4}{5} = 4\frac{2}{5} \simeq 4$

$y(6) = 4\frac{2}{5} + \frac{4}{5} = 5\frac{1}{5} \simeq 5$

Line 2:



$dx = 5-0 = 5$ ~~steps~~ $dx = \frac{5}{7}$

$dy = 1-8 = -7$ $dy = \frac{-7}{7} = -1$

$y(7) = 0 + \frac{5}{7} = \frac{5}{7} \simeq 1$

$y(6) = \frac{5}{7} + \frac{5}{7} = 1\frac{3}{7} \simeq 1$

$y(5) = 1\frac{3}{7} + \frac{5}{7} = 2\frac{1}{7} \simeq 2$

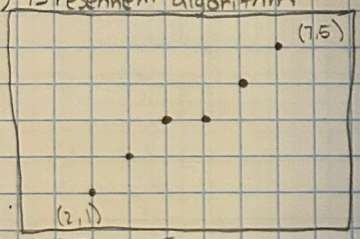
$y(4) = 2\frac{1}{7} + \frac{5}{7} = 2\frac{6}{7} \simeq 3$

$y(3) = 2\frac{6}{7} + \frac{5}{7} = 3\frac{4}{7} \simeq 4$

$y(2) = 3\frac{4}{7} + \frac{5}{7} = 4\frac{2}{7} \simeq 4$

ii) Bresenhem algorithm

Line 2:



$dx = 7-2 = 5$

$dy = 5-1 = 4$

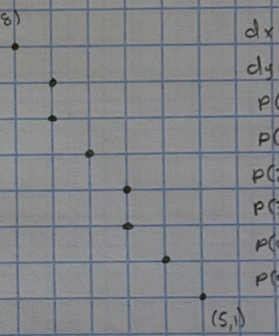
$p(0) = 2(4) - 5 = 3 > 0$

$p(1) = 3 + 2(4) - 2(5) = 1 > 0$

$p(2) = 1 + 2(4) - 2(10) = -1 < 0$

$p(3) = -1 + 2(4) = 7 > 0$

Line 2:



$dx = 5-0 = 5$

$dy = 1-8 = -7$

$p(0) = 2(5) - 7 = 3 > 0$

$p(1) = 3 + 2(5) - 2(7) = 1 > 0$

$p(2) = -1 + 2(5) = 9 > 0$

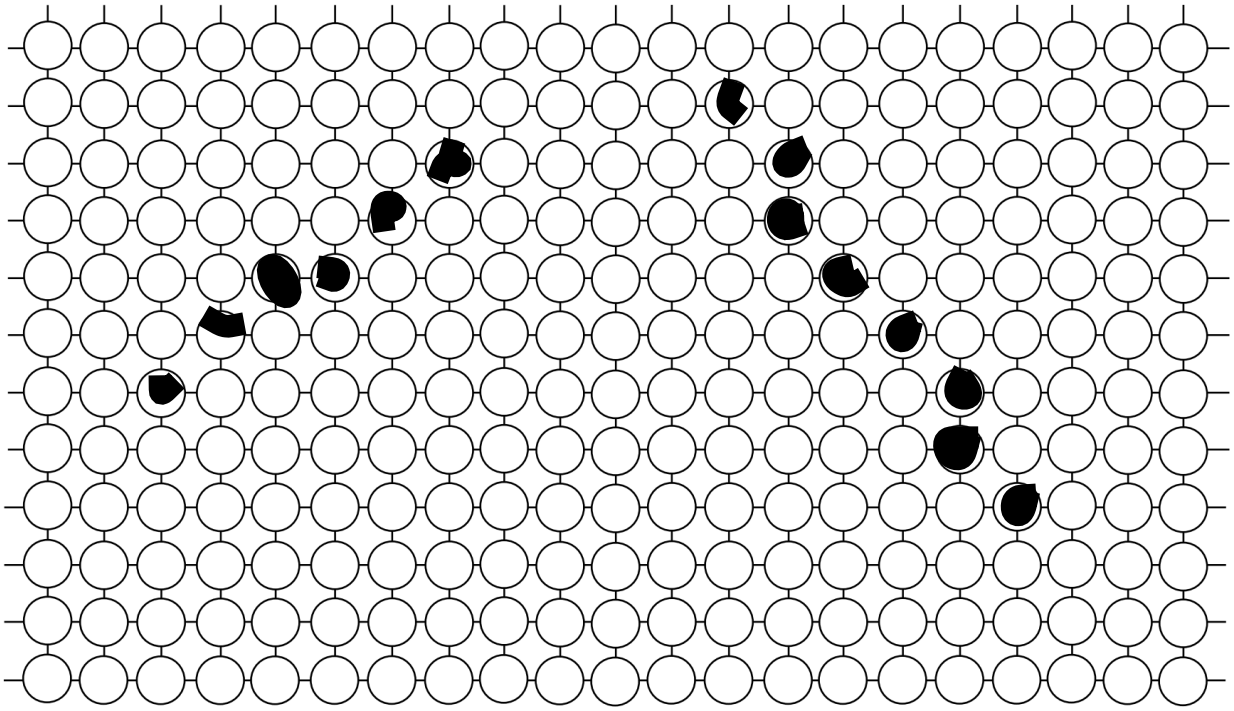
$p(3) = 9 + 2(5) - 2(7) = 5 > 0$

$p(4) = 5 + 2(5) - 2(7) = 1 > 0$

$p(5) = 1 + 2(5) - 2(7) = -3 < 0$

i) DDA Algorithm

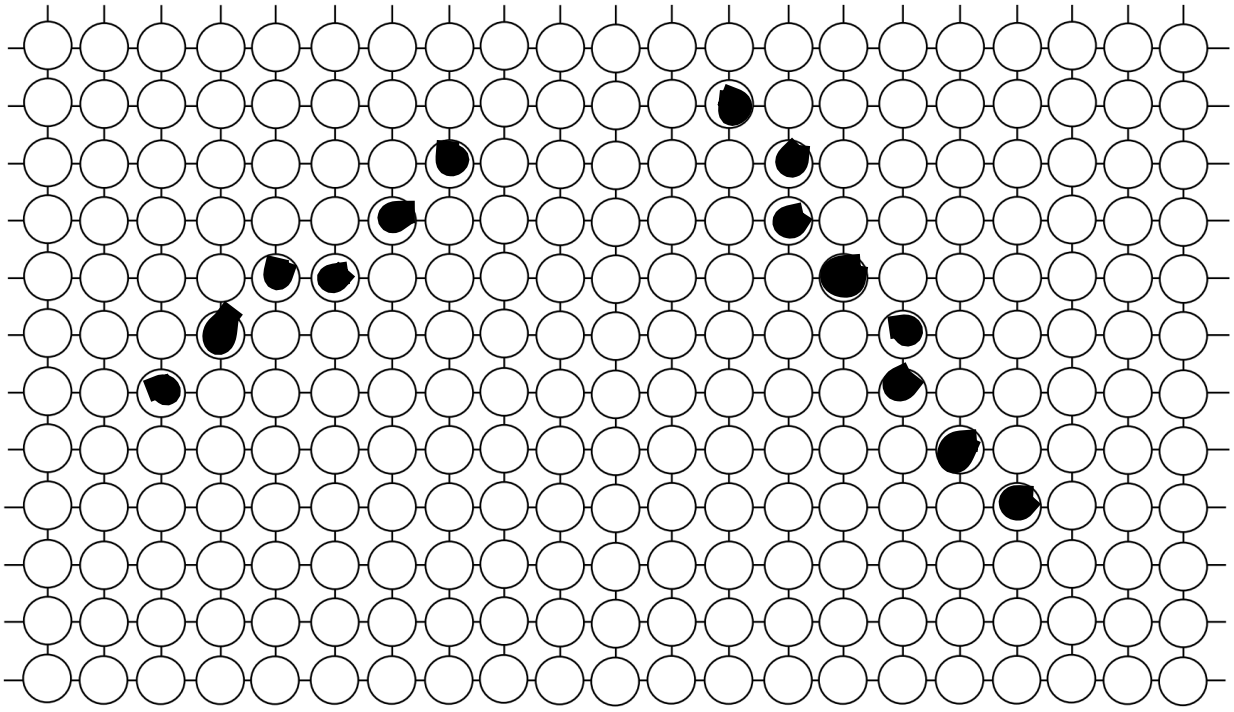
Line 1:



Line 2:

ii) Bresenhem Algorithm

Line 1:



Line 2: