

Solve: $\frac{x^2}{\underline{a}} + \frac{3x}{\underline{b}} + \frac{2}{\underline{c}} = 0$

$x^2 - 2x + 1 \rightarrow x = 1, 1$

$x^2 - 3x + 2 \rightarrow x = 1$
 $x = 2$

Machine

Implicitly program

(machine learning)

we need data

a	b	c	sol 1	sol 2
1	-2	1	1	1
1	-3	2	1	2
⋮	⋮	⋮	⋮	⋮
1	-4	3	1	3

Explicitly program.

Using the quadratic formula

$ax^2 + bx + c = 0$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Input $a = 1, b = 3, c = 2$

$\Rightarrow x = \frac{-3 \pm \sqrt{9 - 8}}{2} = -1, -2$

Neural network

a	b	c	sol 1	sol 2
1	3	2	-1.1	-1.99

calculated
by the neural
network