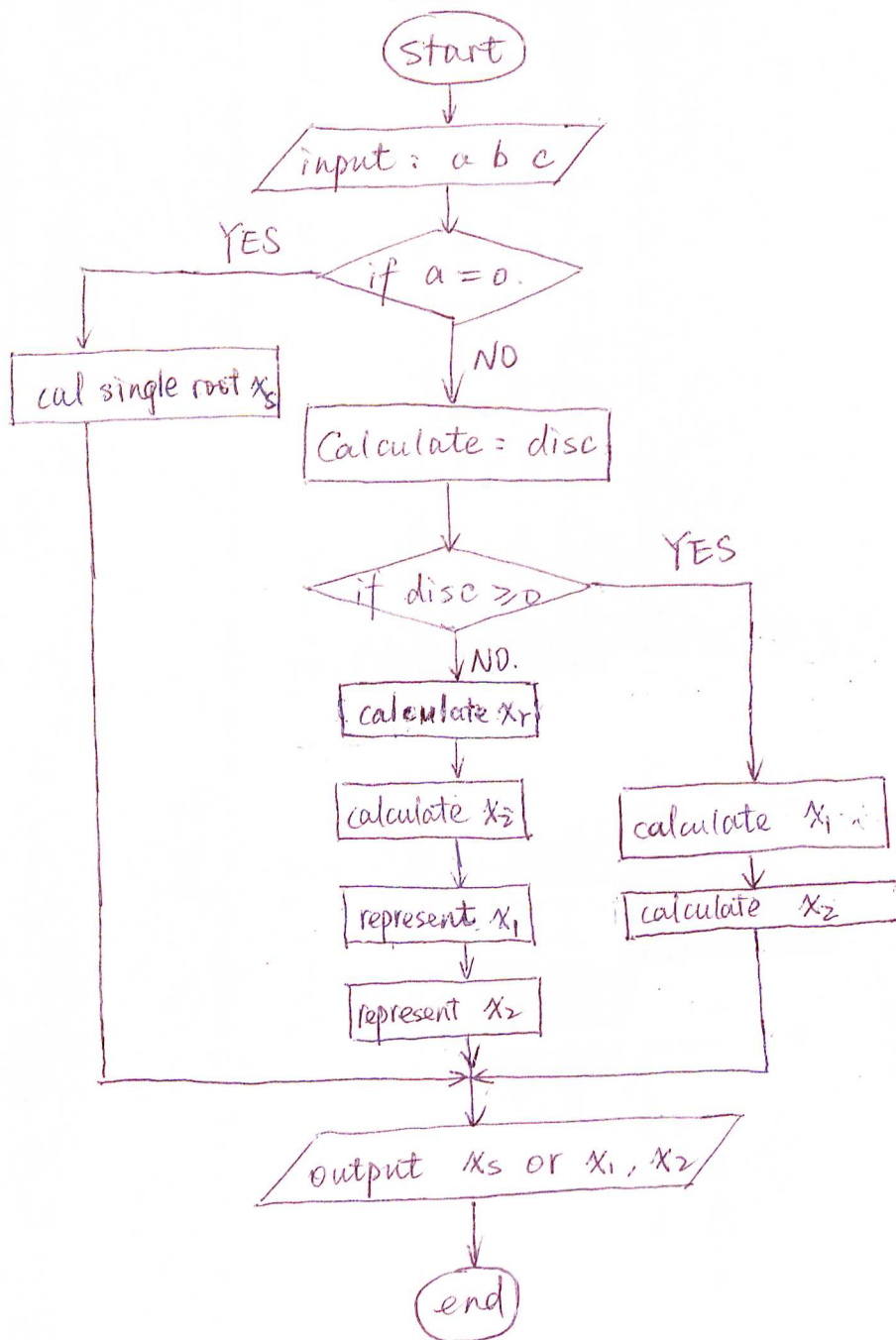


# HW = Quadratic Equation Solver

Sugian Wang

Flowchart.



variable =

double a

double b

double c

double disc. (discriminant)

double x<sub>s</sub>

double x<sub>r</sub>

double x<sub>i</sub>

double x<sub>1</sub>

double x<sub>2</sub>

equation:

$$\text{disc} = b^2 - 4ac.$$

$$x_s = -c/b.$$

$$x_r = -b/2a$$

$$x_i = \frac{\sqrt{-\text{disc}}}{2a}.$$

$$\text{disc} \geq 0 \left\{ \begin{array}{l} x_1 = \frac{-b - \sqrt{\text{disc}}}{2a} \\ x_2 = \frac{-b + \sqrt{\text{disc}}}{2a} \end{array} \right.$$

$$\text{disc} < 0 \left\{ \begin{array}{l} x_1 = x_r - x_i \cdot i \\ x_2 = x_r + x_i \cdot i \end{array} \right.$$