Algorithm: Roots of Quadratic Equation

- Read a, b, c, d
- If (a==0) then
  Print("Not a Quadratic Equation")
  - If(b≠0) then
    x = $-\frac{c}{b}$
    Print (x)
  end if
- Else
  D = $b * b - 4 * a * c$
  - If(D==0) then
    Print("Roots are real and equal")
    alpha = $-\frac{b}{2*a}$
    beta = alpha
    end if

  - if(D>0) then
    Print("Roots are real and distinct")
    alpha = $\frac{-b + sqrt(D)}{2*a}$
    beta = $\frac{-b - sqrt(D)}{2*a}$
    end if

  - If (D<0) then
    Print("Roots are imaginary")
    xReal = $-\frac{b}{2*a}$
    xImag = $\frac{sqrt(abs(D))}{2} * a$
    alpha = xReal + i*xImag
    beta = xReal - i*xImag
    end if

  - Print(x1 = alpha, x2 = beta)

  end if

End

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