// This procedure approximates the roots of an equation using method of false position  
  
OUTPUT “To enter some maths function, math.cos(x), math.pi, math.log(x), 5\*\*2 = 5^2, 5\*2 = 5 times 2, 5/2 = 5 divided by 2”

//Equation In terms of x  
INPUT equation

//Set a flag to determine if initial value given is valid  
valid\_Initial\_Values ← FALSE

//Loop to validate initial values until it is valid

WHILE valid\_Initial\_Values = FALSE DO

INPUT a  
x ← a  
//Sub value of x into equation  
fa ← equation  
  
INPUT b  
x ← b  
//Sub value of x into equation  
fb ← equation  
  
//Check if fa\*fb are opposite sign  
OUTPUT fa  
OUTPUT fb  
IF fa\*fb >= 0

THEN

OUTPUT "Invalid Initial Values. Please Input Again!"  
ELSE

valid\_Initial\_Values = TRUE

ENDIF  
  
ENDWHILE  
  
INPUT TOL

//Number of Iterations  
INPUT N  
  
//Start Iterations  
DECLARE INT i = 1

//Iteration Loop  
WHILE i <= N DO

//Formula

x ← (a\*fb – b\*fa)/(fb – fa)  
  
IF |x - a| < TOL or |b - x| < TOL

THEN

OUTPUT a, b, x, fx, fa, fb  
OUTPUT “This method is successful after ”, i, “ iterations  
OUTPUT “The Approximate Root To ”, dp – 1, “ Decimal Places Is”, x, “From Rounding Up/Down”, x  
//STOP LOOP  
BREAK

ENDIF  
  
fx ← equation

OUTPUT a, b, x, fx, fa, fb

ENDIF

//Increment Number of Iteration Round   
i ← i + 1

IF fa\*fx > 0

THEN

a ← x

fa ← fx

ELSE

b ← x

fb ← fx

ENDIF

ENDWHILE

IF (i – 1 = N) AND (|x - a| > TOL or |b – x| > TOL|)

THEN

OUTPUT “The Method Failed After ”, i – 1, “ Iterations”

ENDIF