What’s an Algorithm?

* Set of well-defined instructions to solve a particular problem

Example:

* Add two numbers
* Find largest number among three numbers
  + Begin
  + Hold numbers in variables x,y,z
  + Read x,y,z
  + If x>y
    - If x>z
      * Say x is the largest
    - Else
      * Say z is the largest
    - If y>z
      * Say y is the largest
    - Else z is the largest
  + End
* Find all the roots of the quadratic equation () => ax2+bx+c=0
  + Begin
  + Declare variables a,b,c,Dx1,x2,rp,ip
  + Calculate discriminant: The discriminant in a quadratic equation is a value calculated from the coefficients of the equation that can provide information about the nature of its solutions (real or complex), the number of solutions (2 or 1), and the relationship between the solutions (distinct or equal). The formula for the discriminant is *b2-4ac* where A, B, and C are the coefficients of the quadratic equation in the form ax^2 + bx + c.

*D = b2-4ac*

* + If D >= 0
    - Say r1 = (-b+)/2a
    - Say r2 = (-b-)/2a
    - Show r1 and r2 as roots

Else

* Calculate the real and imaginary part

say rp = -b/2a

say ip = )/2a

show rp+j(ip) and rp-j(ip) as roots

* + End
* Find the factorial
* Check prime number
* Fibonacci series