

stdin + stdout (cin + cout) :
used for inter-program communication
(programs talking to each other)
(or humans!)

functions (via parameters + return values) :
used for intra-program comm.
(pieces of a single program communicating
w/ other pieces)

Example: solving quadratic equations

say $f(x) = ax^2 + bx + c$. (Read about Galois!)

You can find the roots using the formula

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

How to do this in C++?

Inputs? 3 (a, b, c). Type? double.

Outputs? could be 2, (or 0, or 1) ←
(real solutions)

Maybe prototype :

double formula(double a, double b, double c,
double & r1, double & r2);

↑
we'll return $D = b^2 - 4ac$

inputs

outputs