Introduction - CoPro - Group 1

CoPro is a domain-specific programming language built to help programmers program complex mathematical problems in the domain of the conic sections, by helping them out with functions related to that domain. A lot of essential ideas of CoPro have been inspired by C.
CoPro provides a variety of data types, fundamental datatypes being ***void, int, double, string, and bool***, and along with them, provides many non-trivial data types such as ***point, line, conic, line_pair, circle, parabola, ellipse, hyperbola.***
Expressions are formed from operators and operands; any expression, including an assignment or a function call, can be a statement.
Along with such datatypes and statements, CoPro provides control-flow constructions such as statement grouping, decision-making(***if-else***), looping with termination tests at the top(***while***), and loop control statements(***break, continue***). Functions that the user declares in the code may return any of the primitive data types. Local variables are typically "automatic", or created anew with each invocation. CoPro provides '***input***' and '***output***' functions that act as READ and WRITE statements; however, there are no built-in file access methods. It also provides multiple inbuilt functions depending on each data type; for eg., it provides inbuilt function '***slope***' for data type '***line***' and functions '***tangent***', '***normal***', '***directrix***', '***eq_***' etc. for data types such as '***parabola***', '***ellipse***', '***hyperbola***' etc.

CoPro, like any other language, has its fair share of limitations. There are no arrays, structs, or unions which could be used, there are no ‘for’ loops, etc. Nonetheless, CoPro is very effective for the purpose it was written.