Report

Member variables for the real and imaginary parts.

Constructors for initialization.

Operator overloads for arithmetic operations (+, -, *, /) and stream operations (<<, >>).

Methods to get and set the real and imaginary parts.

Methods to compute the magnitude of the complex number.

+, -, *, / for operations between complex numbers and between a complex number and a double.

<< and >> for stream insertion and extraction.

== and != for comparison operations.

The quadratic equation solver calculates the discriminant

D=b**2−4ac

If D is non-negative, the roots are real and calculated using the quadratic formula.

If D is negative, the roots are complex and computed using the Complex class to handle the imaginary part.

The program verifies the roots by substituting them back into the original quadratic equation and checking if the result is close to zero.