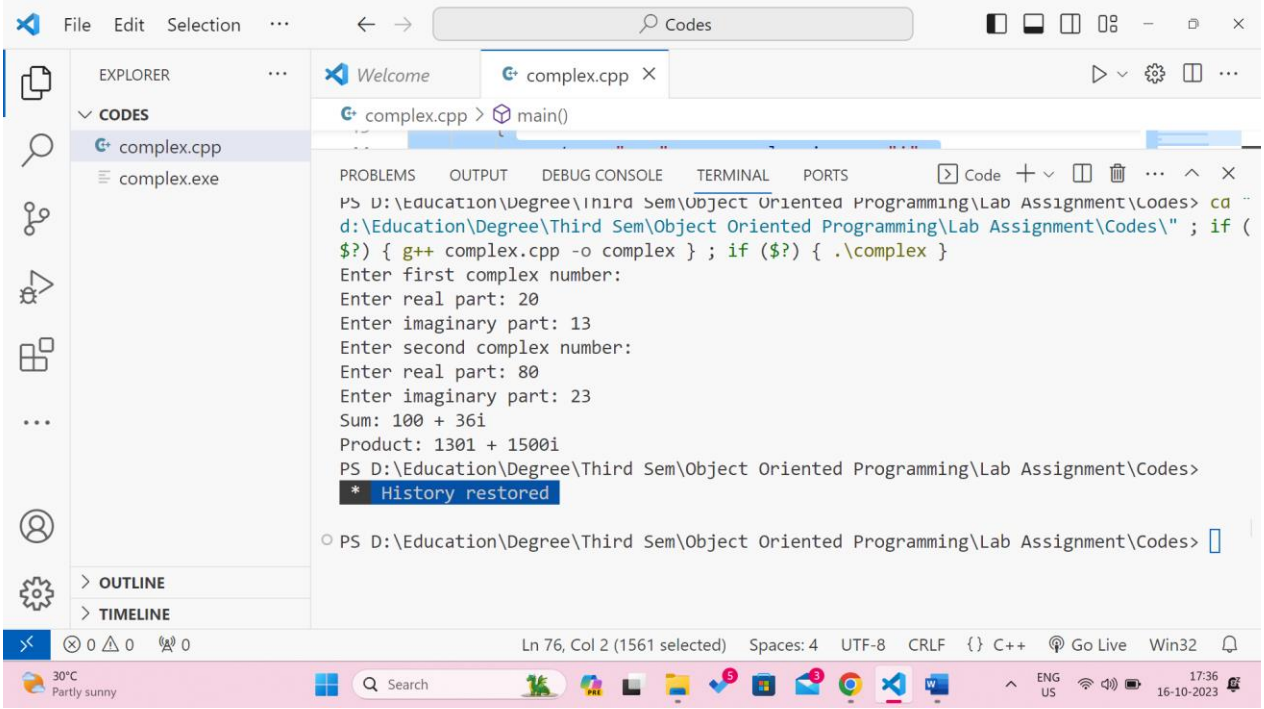
Code:

```
#include <iostream>
using namespace std;

class Complex
{
private:
    double real;
    double img;

public:
    Complex()
    {
        this->real = 0;
        this->img = 0;
    }

    Complex(double real, double img)
    {
        this->real = real;
        this->img = img;
    }

    Complex operator+(const Complex &other)
    {
        return Complex(real + other.real, img + other.img);
    }

    Complex operator*(const Complex &other)
    {
        double res_real = (real * other.real) - (img * other.img);
        double res_img = (real * other.img) + (img * other.real);
        return Complex(res_real, res_img);
    }

    friend ostream &operator<<(ostream &out, Complex &complex)
    {
        cout << complex.real;
        if (complex.img >= 0)
        {
            out << " + " << complex.img << "i";
        }
        else
        {
            out << " - " << -complex.img << "i";
        }
        return out;
    }
```

```cpp
    friend istream &operator>>(istream &in, Complex &complex)
    {
        cout << "Enter real part: ";
        in >> complex.real;
        cout << "Enter imaginary part: ";
        in >> complex.img;
        return in;
    }
};

int main()
{
    Complex c1, c2;

    cout << "Enter first complex number: \n";
    cin >> c1;

    cout << "Enter second complex number: \n";
    cin >> c2;

    Complex sum = c1 + c2;
    Complex product = c1 * c2;

    cout << "Sum: " << sum << endl;
    cout << "Product: " << product << endl;

    return 0;
}
```

Output:



```
PS D:\Education\Degree\Third Sem\Object Oriented Programming\Lab Assignment\Codes> cd "
d:\Education\Degree\Third Sem\Object Oriented Programming\Lab Assignment\Codes\" ; if (
$?) { g++ complex.cpp -o complex } ; if ($?) { .\complex }
Enter first complex number:
Enter real part: 20
Enter imaginary part: 13
Enter second complex number:
Enter real part: 80
Enter imaginary part: 23
Sum: 100 + 36i
Product: 1301 + 1500i
PS D:\Education\Degree\Third Sem\Object Oriented Programming\Lab Assignment\Codes>
 *  History restored

PS D:\Education\Degree\Third Sem\Object Oriented Programming\Lab Assignment\Codes>
```