

```

1  /**
2  This is a program to compute sin(x)
3  */
4
5  #include <iostream>
6  #include <cmath>
7
8  int main() {
9      int N;
10     double x;
11
12     std::cout << "Enter N" << std::endl;
13     std::cin >> N;
14
15     std::cout << "Enter x" << std::endl;
16     std::cin >> x;
17
18     while (N < 0) {
19         std::cout << "Number of terms in the series"
20         << " should be some positive"
21         << " integer." << std::endl;
22         std::cout << "Enter N" << std::endl;
23         std::cin >> N;
24     }
25
26     double sum = 0;
27     int fact = 1;
28     int sign = 1;
29
30     for (int i = 1; i < N; i++) {
31         sum += sign * std::pow(x, i) / fact;
32         fact *= (i + 1) * (i + 2);
33         sign *= -1;
34     }
35
36     std::cout << sum << std::endl;
37
38     return 0;
39 }

```