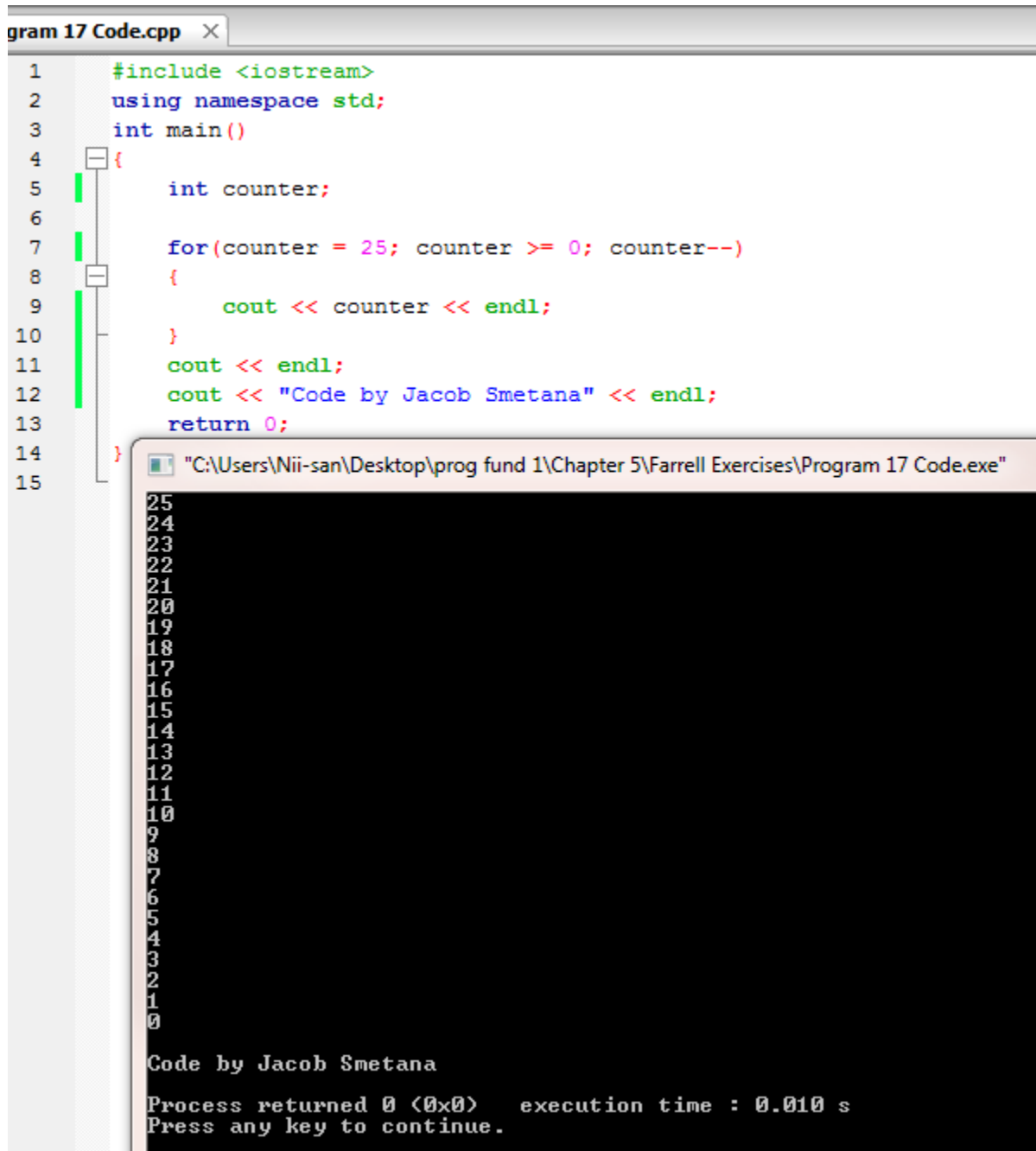


Chapter 5 Farrell Exercises Programs 17-19

Program 17 Code.

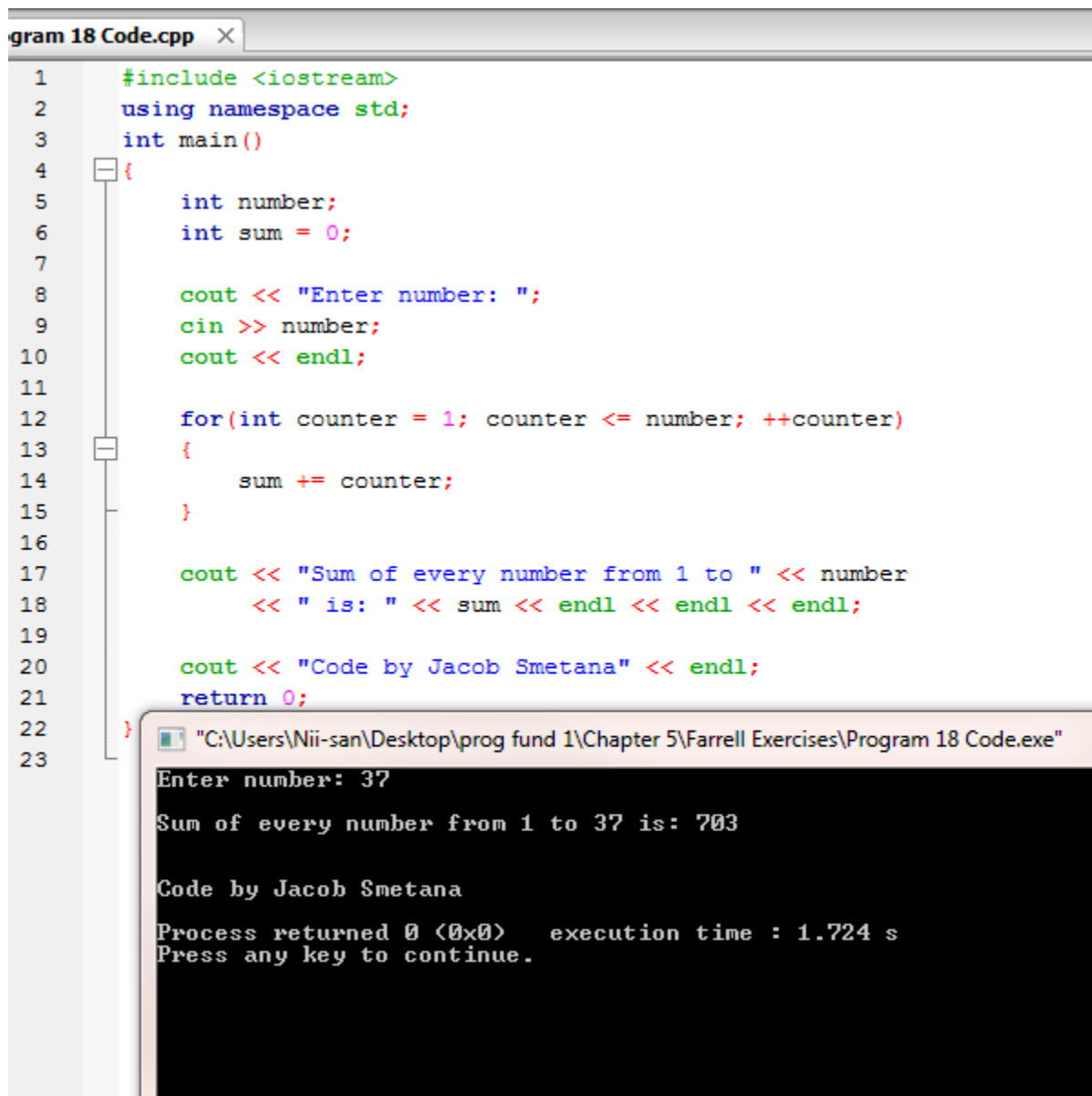


The screenshot shows a C++ IDE with a file named "Program 17 Code.cpp" open. The code is as follows:

```
1  #include <iostream>
2  using namespace std;
3  int main()
4  {
5      int counter;
6
7      for(counter = 25; counter >= 0; counter--)
8      {
9          cout << counter << endl;
10     }
11     cout << endl;
12     cout << "Code by Jacob Smetana" << endl;
13     return 0;
14 }
15
```

Below the code editor, the execution output is displayed in a black window titled "C:\Users\Nii-san\Desktop\prog fund 1\Chapter 5\Farrell Exercises\Program 17 Code.exe". The output shows the numbers 25 through 0, each on a new line, followed by a blank line and the text "Code by Jacob Smetana". At the bottom, it says "Process returned 0 (0x0) execution time : 0.010 s" and "Press any key to continue."

Program 18 Code.



The image shows a C++ IDE window titled "Program 18 Code.cpp". The code is as follows:

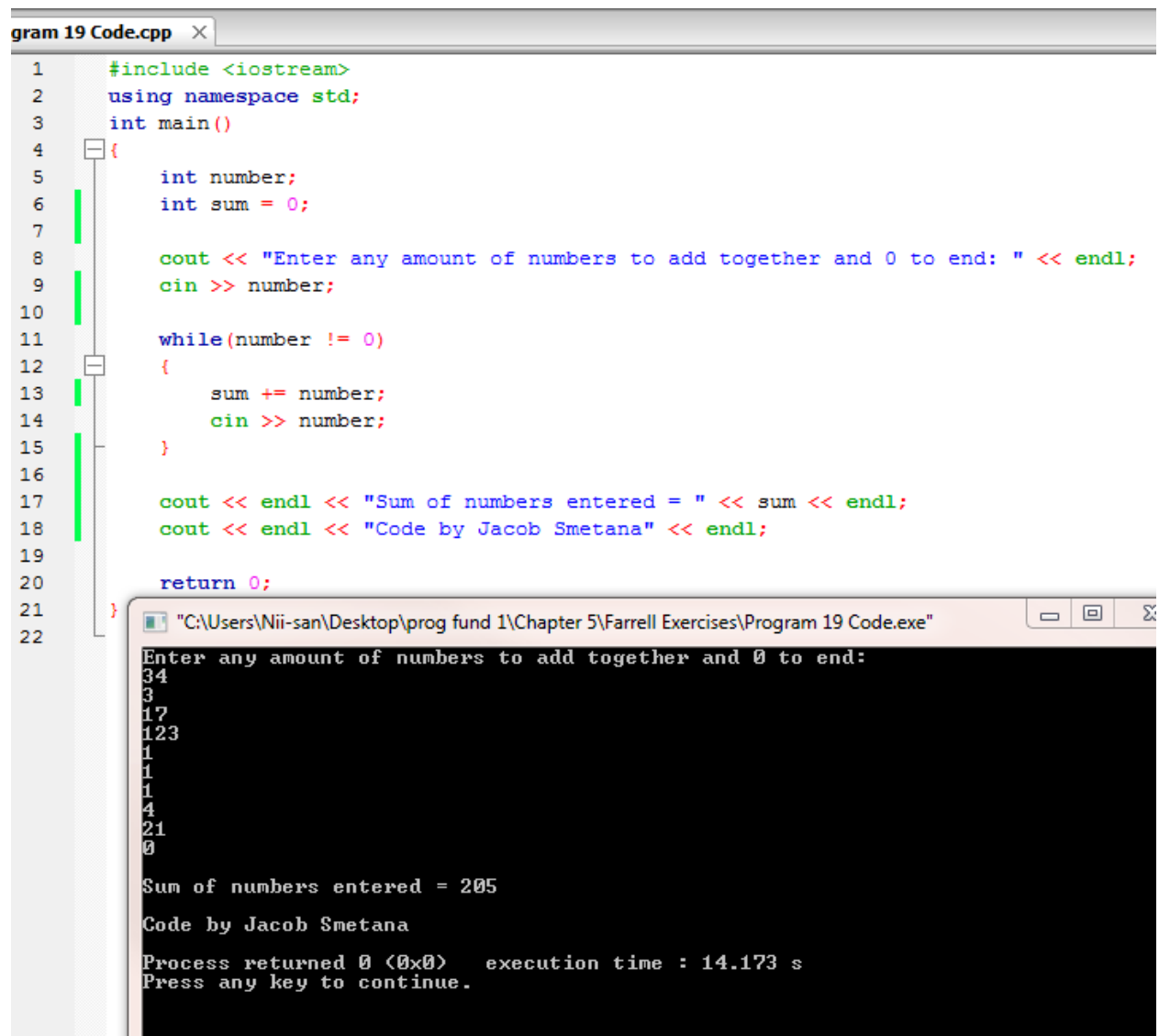
```
1  #include <iostream>
2  using namespace std;
3  int main()
4  {
5      int number;
6      int sum = 0;
7
8      cout << "Enter number: ";
9      cin >> number;
10     cout << endl;
11
12     for(int counter = 1; counter <= number; ++counter)
13     {
14         sum += counter;
15     }
16
17     cout << "Sum of every number from 1 to " << number
18         << " is: " << sum << endl << endl << endl;
19
20     cout << "Code by Jacob Smetana" << endl;
21     return 0;
22 }
23
```

Below the code editor, a console window titled "C:\Users\Nii-san\Desktop\prog fund 1\Chapter 5\Farrell Exercises\Program 18 Code.exe" displays the program's output:

```
Enter number: 37
Sum of every number from 1 to 37 is: 703

Code by Jacob Smetana
Process returned 0 (0x0)   execution time : 1.724 s
Press any key to continue.
```

Program 19 Code.



The image shows a C++ IDE with two windows. The top window, titled 'gram 19 Code.cpp', displays the source code for a program that calculates the sum of numbers entered by the user until they enter 0. The code uses `iostream` and `std` namespace, and includes a `while` loop for input processing. The bottom window, titled '"C:\Users\Nii-san\Desktop\prog fund 1\Chapter 5\Farrell Exercises\Program 19 Code.exe"', shows the program's execution. It prompts the user to enter numbers, which are listed on the left: 34, 3, 17, 123, 1, 1, 1, 4, 21, and 0. The output shows the sum of these numbers is 205, followed by the text 'Code by Jacob Smetana' and a message indicating the process returned 0 with an execution time of 14.173 seconds.

```
1  #include <iostream>
2  using namespace std;
3  int main()
4  {
5      int number;
6      int sum = 0;
7
8      cout << "Enter any amount of numbers to add together and 0 to end: " << endl;
9      cin >> number;
10
11     while(number != 0)
12     {
13         sum += number;
14         cin >> number;
15     }
16
17     cout << endl << "Sum of numbers entered = " << sum << endl;
18     cout << endl << "Code by Jacob Smetana" << endl;
19
20     return 0;
21 }
22
```

"C:\Users\Nii-san\Desktop\prog fund 1\Chapter 5\Farrell Exercises\Program 19 Code.exe"

Enter any amount of numbers to add together and 0 to end:

34
3
17
123
1
1
1
4
21
0

Sum of numbers entered = 205

Code by Jacob Smetana

Process returned 0 (0x0) execution time : 14.173 s
Press any key to continue.