

# Scientific Programming

Homework 6: Due 11/30

**Homework problems** Turn in complete C++ programs for each of the below. Make sure that they compile and run properly, but only submit the .cpp file for each.

1. Write a program that prompts the user to enter a temperature in Fahrenheit and prints the equivalent temperature in Celsius. (You may use the formula  $\frac{5}{9}(f - 32)$  for this conversion. For example, a sample session might look like this (where the number entered by the user is underlined below):

```
Enter a temperature in Fahrenheit: 85
85 Fahrenheit is equal to 29.4444 Celsius
```

2. Write a program that prompts the user for a number  $n$  and returns the sum of all the integers smaller than  $n$ .
3. Write a program that prompts the user to enter two integers and uses a for loop to calculate the sum of all the numbers between them inclusively. So, if the user enters 5 2 then the program would output 14 (since  $2+3+4+5 = 14$ ). And if the user enters -5 5 the output would be 0 (since  $-5+-4+...+4+5 = 0$ ).