Loops

section 5.7

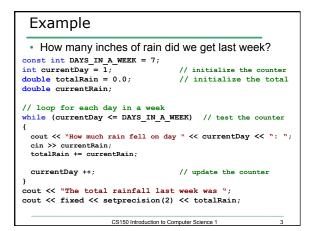# Running totals (5.7)

- Write a snippet of code that will calculate the sum of all the integers from 0 to 5.

- Write a snippet of code that will ask the user for a number. Print the *sum* of all the integers from 0 to the number the user supplied.

Example

- How many inches of rain did we get last week?

```cpp
const int DAYS_IN_A_WEEK = 7;
int currentDay = 1;              // initialize the counter
double totalRain = 0.0;          // initialize the total
double currentRain;

// loop for each day in a week
while (currentDay <= DAYS_IN_A_WEEK)  // test the counter
{
  cout << "How much rain fell on day " << currentDay << ": ";
  cin >> currentRain;
  totalRain += currentRain;

  currentDay ++;                 // update the counter
}
cout << "The total rainfall last week was ";
cout << fixed << setprecision(2) << totalRain;
```

Practice

- Write a snippet of code that will ask the user for a number. Print the sum of all the *even* numbers from 0 to the square of the number the user supplied.

Practice

- Write a snippet of code that will ask the user for an integer. Print all the integers from 0 to the number the user supplied as well as the running total of the integers.

```
Enter a number: 3
counter running total
      0              0
      1              1
      2              3
      3              6
```

Exercise

- Write a snippet of code that will ask for a student's exam score and then print the appropriate letter grade (A,B,C,D,F).

- Continue asking for exam scores and printing letter grades until the user enters a negative exam score

```
double examScore;
```