CS150 Intro to CS I

Fall 2014
Chapter 5
Loops & Files

- Reading: pp. 262-264 (Section 5.10)
- Good Problems to Work: p. 297 [18]
Nested Loops

- What is the output?

```cpp
for (int i = 0; i < 3; i++)
{
    // how many times will this run?
    cout << i << " : ";

    for (int j = 0; j < 2; j++)
    {
        // how many times will this run?
        cout << "*";
    }
    cout << endl;
}
```
Practice

- What is the output?

```cpp
for (int i = 1; i < 4; i++)
{
    cout << i << " : ";

    for (int j = 0; j < i; j++)
    {
        cout << "*";
    }
    cout << endl;
}
```
Practice

- Write C++ statements that will read in an integer from the user, n, and produce the following output:

1
22
333
4444
...

nnnnnnnnnn
Consider the following program segment:

```cpp
cout << setw(3) << "i" << setw(3) << "j" << endl;

for (int i = 0; i <= 3; i += 2)
{
    for (int j = i; j <= 3; j++)
    {
        cout << setw(3) << i << setw(3) << j << endl;
    }
}
```

1. What is the output?
2. Rewrite the above nested loop as a nested while loop.
An input file contains data on a day’s sales for a number of stores. The first line of the file contains the number of stores. This is followed by the sales amounts for each store. Write a program to display a bar graph of asterisks comparing each store’s sales. Each asterisk represents $100 in sales.

Sample input and output are on the next slide.
Input File

1  5
2  1000
3  1200
4  1500
5  800
6  1900

Output

```
Store 1: ************
Store 2: ************
Store 3: ************
Store 4: ********
Store 5: ************
Press any key to continue . . .
```