CS150 Intro to CS I

Fall 2012

Chapter 3
Character Processing

- Reading: pp.120-130

Working With Characters

- Special functions exist for working with characters

- Remember, cin >> ch; reads a single character into ch skipping any whitespace

- What is whitespace again?

cin.get ()

- The cin object has a function called get that gets a single character (including whitespace) from the keyboard

```
char ch;
cout << "Enter a character: ";
cin.get (ch);
cout << "Character is: " << ch << endl;
```

- If A is entered, what does the input stream look like before the second cout? What about after the second cout?

cin.get ()

- The following three program segments are equivalent for inputting a single character

```
char ch;     // segment #1
cout << "Enter a character: ";
cin.get (ch);
cout << "Character is: " << ch << endl;

char ch;     // segment #2
cout << "Enter a character: ";
ch = cin.get ();
cout << "Character is: " << ch << endl;

char ch;     // segment #3
cout << "Enter a character: ";
cin >> ch;
cout << "Character is: " << ch << endl;
```

Practice

- What is output for each of the segments below assuming **A B C (not ABC)** is entered from the keyboard.

```
char ch1, ch2;    // segment #1
cout << "Enter: ";
cin.get (ch1);
cin.get (ch2);
cout << "Characters: " << ch1 << ch2 << endl;

char ch1, ch2;    // segment #2
cout << "Enter: ";
cin >> ch1 >> ch2;
cout << "Characters: " << ch1 << ch2 << endl;
```

Processing a Line of Text

- We can use cin.get() to process an entire line of text including whitespace. What happens if **12345** is entered followed by a return?

```
char ch;
int count = 1;

cout << "Enter a line of text: ";
cin.get (ch);


while ('\n' != ch)
{
  cin.get (ch);
  ++count;
}
cout << "Number of characters is: " << count << endl;
```

Practice

- Remember, an ifstream object works similarly to cin; therefore, write a C++ program segment to print the number of lines in the file 'paragraph.txt'