Instructors: Osborne and Graham
Assignment #6
Due: Monday, April 6th by 23:59

Decimal to binary to ASCII conversion

Objectives

- Convert decimal numbers to their binary and ASCII equivalents
- Manipulate characters as integers
- Extra credit

Assignment

In class I showed you a program that would prompt a user for a character and then convert it to its decimal and binary equivalent. For this assignment, I would like you to use that basic idea to convert the decimal (base 10) numbers from 0 to 127 to their binary and ASCII equivalents. There is no need for user input in this program. Rather, your program should start with zero and loop through to 127 (base 10) and print out a table that shows the decimal value, the binary value and the ASCII character.

As a sample, your output should look like this:

Decimal	Binary	Char
33	00100001	!
34	00100010	“
35	00100011	#

However, remember that your decimal values should start at 0 and end at 127. The reason I started at 33 is that the ASCII character values below 33 are not going to print anything you will immediately recognize. Here is a link to an ASCII table against which you can check your answers:

http://upload.wikimedia.org/wikipedia/commons/d/dd/ASCII-Table.svg

Notice that I include leading zeroes for the binary numbers, whereas the Wikimedia table does not. This is not necessary but it can make things easier if you use the code I used in class and there are 8 bits in a byte (see page 5 of your text).

Extra Credit

For extra credit, replicate the entire ASCII table shown in the link above, including octal and hexadecimal equivalents of the decimal values from 0 to 127.

Assignment Details:

- You must include comments at the top of your program that contain the following:
  - Your name
  - Date
  - Assignment #6
  - Brief description of the assignment (one or two lines max)
- You also must include comments throughout your program explaining what it is doing.
- If your code does not compile you will get a zero for this assignment.
- Submit your file as firstname_lastname_hw6.cpp to Moodle.