CSC 222 - 001 **Lab #1**

Source code due by end of class on Gradescope.

1. (50 pts) Write a C program **q1.c** that requests a nonnegative integer and returns its binary representation. Define a function `U2B` that does the conversion. It should have the following signature: `void U2B(unsigned long n);`

   Example of output:

```
./q1
Enter an integer (-1 to quit):
25
Binary equivalent: 11001
Enter an integer (-1 to quit):
59
Binary equivalent: 111011
Enter an integer (-1 to quit):
1023
Binary equivalent: 1111111111
Enter an integer (-1 to quit):
-1
Bye.
```

2. (50 pts) Write a program **q2.c** that asks the user to enter the number of miles traveled (as a float) and the number of gallons of gasoline consumed.
   - Calculate and display the miles-per-gallon value, showing two places to the right of the decimal.
   - Given that one gallon is about 3.785 liters, and one mile is about 1.609 kilometers, convert the mile-per-gallon value to a liters-per-100-km value and display the result, showing one place to the right of the decimal. Use symbolic constants (using const or #define) for the two conversion factors.

   Example of output:

```
./q2
Enter number of miles travelled:
300
Enter number of gallons of gas used:
10.2
Mile-per-gallon: 29.41
Liters-per-100-km: 8.0
```