CSCI-101 Programming I

Lab 1

This lab includes 2 parts. The first part requires all of the students in the class to work together to learn how to do binary math. The second part will consist of a quiz on binary math.

Part I

Some of you could take the quiz right now and ace it. Others, if you took the quiz now, would struggle.

Those who have mastered how to do binary math
must help those that have not.

Those who have not yet mastered how to binary math
must ask for help from those who have.

When working on this lab, introduce yourselves to one another and get to know one another.

Below are questions that are similar to the questions on the quiz.

When the class unanimously agrees that they are ready to take the quiz, come get me, I'll be in my office.

Part II

Each student will take the quiz independently.

I will grade the quizzes and compute the class average.

Each student will receive a grade equal to the class average,
not their individual quiz score.

It is therefore imperative that those who have mastered how to do binary math help those that have not and it is imperative for those who have not yet mastered how to binary math ask for help from those who have.

Example Quiz

Instructions You must show your work for credit. Circle your answers.

Convert the following binary numbers to decimal.

0 0 0 0 0 0 1 0

0 0 1 0 0 0 0 0

0 1 0 0 0 1 0 0

1 0 0 1 1 0 0 0

0 0 0 0 1 1 1 1

1 0 1 1 0 0 1 1

Convert the following decimal numbers to binary

2

9

65

35

142

254

255

Write the binary numbers that are equivalent to the decimal values between 0 and 10, in order, from smallest to largest.

Compute the following sums of binary numbers.

1 + 0 =

1 + 1 =

1 + 10 =

1 + 11 =

11 + 10 =

11 + 11 =

101 + 11 =

11101 + 11010 =