CS 570: Programming Foundations
Fall 2017

Homework Assignment #1

Due date: Wednesday, October 4, 2017 by 11:59 PM.

Each question is worth 25%.

1. Perform
   a. The binary addition: `1100110 + 1010111`. **Show all your work**.
   b. The binary division. `10111011 ÷ 11`. **Show all your work**.

2. A document of text is 15 pages long. Each page contains approximately 200 words and the average length of each word is 5 characters. Also assume one blank space between each word and no punctuation. How many bytes will it take to store this document in memory or on disk using ASCII?. **Explain your answer and show you calculations**.

3. Create the truth table for the formula:

   `(P ∧ ¬Q) ∨ (P ∨ Q)`

   Show all your work.

4. Create the truth table for the formula:

   `(¬P ∨ ¬Q) ∧ ((R ∧ Q) ∨ (P ∧ ¬R))`

   Show all your work.

How to submit your assignment

- Assignments must be submitted via Blackboard Learn.
  - Please note that assignments submitted via email will not be accepted.
  - Late assignments will not be accepted. Your work must be uploaded and submitted by 11:59 PM on the date it's due.

- This assignment must be submitted as a PDF file.
  - Do not submit files in any other formats – if you do, your assignment will not be graded.