

Andrew login ID: _____

Full Name: _____

CS 15-213, Spring 2003

Exam 1

February 27, 2003

Instructions:

- Make sure that your exam is not missing any sheets, then write your full name and Andrew login ID on the front.
- Write your answers in the space provided below the problem. If you make a mess, clearly indicate your final answer.
- The exam has a maximum score of 60 points.
- The problems are of varying difficulty. The point value of each problem is indicated. Pile up the easy points quickly and then come back to the harder problems.
- This exam is OPEN BOOK. You may use any books or notes you like. No electronic devices are allowed. Good luck!

1 (1):
2 (9):
3 (8):
4 (4):
5 (8):
6 (12):
7 (10):
8 (8):
TOTAL (60):

Problem 1. (1 points):

The correct answer to this problem is worth 1 point. An incorrect answer is worth -2 points. No answer will be scored as 0 points. Note: The answer to this question was given in lecture.

The correct answer to this problem is: _____

Problem 2. (9 points):

Assume we are running code on an 8-bit machine using two's complement arithmetic for signed integers. Short integers are encoded using 4 bits. Sign extension is performed whenever a short is casted to an int. For this problem, assume that all shift operations are arithmetic. Fill in the empty boxes in the table below.