

CS 31 Homework 1

Due on Friday, September 9th 2016

To receive credit for this assignment, you must show your work on all problems. You are strongly encouraged to check your answers using GDB and your C programs from lab 1.

1. Convert the 8-bit unsigned binary value 10011110 to decimal.
2. Convert the 8-bit two's complement binary value 10011110 to decimal.
3. Convert the decimal value 112 to 8-bit two's complement binary.
4. Convert the decimal value -89 to 8-bit two's complement binary.

5. Convert the hex value `0x4AF9` to 16-bit unsigned binary.

6. Convert the 16-bit unsigned binary value `0010000011011110` to hex.

7. Convert the hex value `0x250C` to 16-bit unsigned binary.

8. Convert the decimal value `10000` to hexadecimal.

9. Add the following 8-bit two's complement binary values: $00100100 + 01000110$.

10. Subtract the following 8-bit two's complement binary values: $00001110 - 00111000$.
by the complement-and-add method.