

CS241

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0.1 2's complement operation and 2s complement representation

0.1.1 2's complement

- 4 ->3 bits, 2's complement:
1. Write down in unsigned binary
 2. Invert the bits
 3. Add 1

0.1.2 2's Representation

1 0 0
0 1 1
1 0 0

0.1.3 Unsigned binary integer

Hello $1010_2 \Rightarrow 10_{10}$

0.1.4 Signed

2's Complement Integer — Perform the 2's complement operation

1 0 1 0
0 1 0 1
0 1 1 0

0.1.5 Characters

0001010 (8 bits)

1. Unsigned binary $\# \Rightarrow (10)_{10}$
2. 2's complement binary $\# \Rightarrow (10)_{10}$
3. '\n' (newline)

ASCII \Rightarrow 8 bits