#### This is CS50 AP.

#### binary number system

### binary <sub>0,1</sub>

#### decimal

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

1 2 3

 100
 10
 1

 1
 2
 3

 2
 3

 100
 10

 1
 2

 3
 3

 $100 \times 1 + 10 \times 2 + 1 \times 3$ 

 100
 10
 1

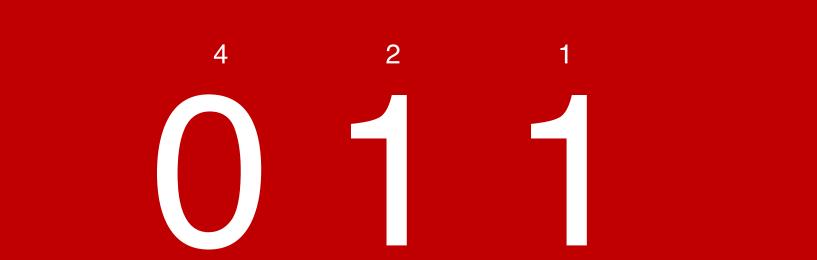
 4
 2
 3

 5
 3
 3

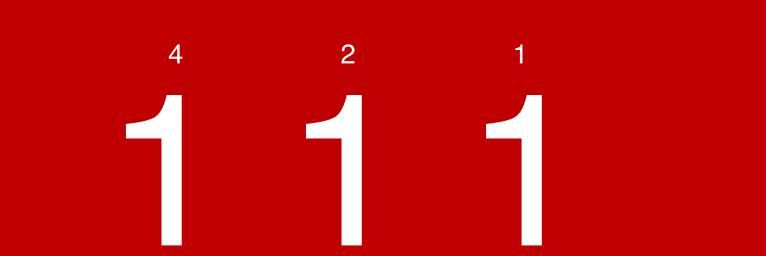
20

+ 3









Write 57 in binary

Write 182 in binary

#### Decimal math

Add 134 + 27

In binary, add 1010101 + 11101

In binary, add 1110111 + 1011101

In binary, subtract 1010101 - 11101