

Binary Subtraction

How to perform binary subtraction

In arithmetic, subtraction can be done by adding a negative number.

Calculate $18 - 8$, using 8-bit binary and two's complement.

Step 1 18 converted to 8-bit binary 0001 0010

Step 2 8 in 8 bit binary 00001000

Step 3 -8 converted to two's complement 8-bit binary **1111 1000**

Step 4 Addition performed:

-128	64	32	16	8	4	2	1	
1	1	1	1	1	0	0	0	-8
0	0	0	1	0	0	1	0	18
0	0	0	0	1	0	1	0	

Result of 0000 1010



Binary Subtraction

64-12

Step 1 work out + 12

Step 2 work out - 12

Step 3 work out 64

Step 4 Add together
-12 and 64

128	64	32	16	8	4	2	1
0	0	0	0	1	1	0	0
1	1	1	1	0	1	0	0
0	1	0	0	0	0	0	0
0	0	1	1	0	1	0	0

FLIP

ignore

Questions

Calculate $100 - 48$, using 8-bit binary and two's complement.