

Assembly Arithmetic

Assume the following values are stored at the indicated memory addresses and registers

Address	Value
0x8000	0x0FF1CE
0x8008	0xBADA55
0x8010	0xDECODE
0x8018	0x01D107

Register	Value
%rax	0x1337
%rbx	0xC0FFEE
%rcx	0x8008
%rdx	0xFA11EDACCE55

Fill in the following table showing the effects of the indicated instructions, showing which register or memory location would be changed and its new value. Also, show the state of the flags after the instruction executes (1 = set, 0 = cleared). Show all values in hexadecimal.

Assume each instruction is independent of the others.

	Instruction	What Changed?	New Value	OF	CF	SF	ZF
1	addq %rdx, %rax						
2	subl (%rcx), %ebx						
3	addw %dx, %cx						
4	subb 16(%rcx), %dl						
5	subq %rdx, -8(%rcx)						
6	addl %ecx, 8(%rcx)						
7	subw %bx, 16(%rcx)						
8	addb %al, (%rcx)						
9	subl %edx, %ebx						
10	subq %rdx, %rdx						
11	cmpb %bl, (%rcx)						
12	testq %rax, %rcx						