

Multiply Divide Practice

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

Register	Value
%rax	0x81
%rbx	0x8008
%rcx	1
%rdx	0

Address	Value
0x8000	1
0x8004	2
0x8008	3
0x800C	4
0x8010	5
0x8014	6
0x8018	0x1337
0x801C	0xC0FFEE

Fill in the following table showing the effects of the indicated instructions, showing which register or registers 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	mulw -8(%rbx, %edx, 4)						
2	mulb 12(%rbx, %ecx, 4)						
3	mulb %bl						
4	imull 12(%rbx), %eax						
5	imulb 8(%rbx, %ecx, 8)						
6	imulw -4(%rbx)						
7	idivb 6(%rbx, %ecx, 2)						
8	idivl 16(%rbx, %ecx, 4)						