

Assignment 3 – Question 1

Table 0

Memory Address	Value	Register	Value
0x230	0x23	%rdi	0x230
0x234	0x00	%rsi	0x234
0x235	0x01	%rcx	0x4
0x23A	0xed	%rax	0x1
0x240	0xff		

Table 1

Operand	Operand Value <i>expressed in hexadecimal</i>	Operand Form <i>Choices are: Immediate, Register or one of the 9 Memory Addressing Modes</i>
%rsi	0x234	Register
(%rdi)	0x23	Indirect memory addressing mode
\$0x23A	0x23A	Immediate
0x240	0xff	Absolute memory addressing
10(%rdi)	$0x00A + 0x230 = 0x23A$	"Base + displacement" memory addressing mode
560(%rcx,%rax)	$0x230 + (0x4 + 0x1) = 0x235$	Indexed memory addressing mode
-550(, %rdi, 2)	$-550 + (0x230 * 2) = -550 + 1120 = 0x23A$	Scaled indexed memory addressing mode
0x6(%rdi, %rax, 4)	$0x6 + 0x230 + (0x1 * 4) = 0x6 + 0x234 = 0x23A$	Scaled indexed memory addressing mode

Table 2

Operand	Value <i>0x00 is a value, not a</i>	Operand Form <i>Choices are: Immediate, Register or one of the 9 Memory Addressing Modes</i>
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	<i>memory address</i>	
0x234	0x00	Absolute memory addressing mode
(, %rsi, 1)=0x234	0x00	Scaled indexed memory addressing mode
(%rdi, %rcx)=0x234	0x00	Indexed memory addressing mode