

x86 (Part 2)

		Stack Address	Stack Content (each cell = 8 bytes)
pushq	%rbp		
movq	%rsp, %rbp		
movq	16(%rbp), %rdx	0x138	0x007
movq	8(%rbp), %rax		
movq	(%rax), %rax	0x130	0x280
leaq	(%rax,%rax,4), %rax		
andq	%rdx, %rax	0x128	0x003
subq	%rdx, %rax		
popq	%rbp	0x120	
ret		0x118	0x138

Initial register values:

%rsp	0x120	%rbp	0x138
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What is the content of %rax by the end of this code's execution?

0x0

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pushq    %rbp                // %rsp = 0x118, (0x118) = 0x138

movq     %rsp, %rbp          // %rbp = 0x118
movq     16(%rbp), %rdx       // %rdx = (0x128) = 0x3
movq     8(%rbp), %rax        // %rax = (0x120) = 0x138
movq     (%rax), %rax         // %rax = (0x138) = 0x7
leaq     (%rax,%rax,4), %rax  // %rax = 0x7 + 0x7 * 4 = 0x23
andq     %rdx, %rax           // %rax = 0x3 & 0x23 = 0x3
subq     %rdx, %rax           // %rax = 0x3 - 0x3 = 0
popq     %rbp                // %rsp = 0x120
ret

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