

## Jump Practice

Evaluate the values of `%eax` and `%ecx` after each of the following blocks of code has executed.

	Code	%eax	%ecx
1	<pre> mov  \$0,    %ecx mov  \$5,    %eax cmp  %ecx,  %eax jl   L1 add  \$2,    %ecx L1:  add  \$1,    %ecx </pre>		
3	<pre> mov  \$0,    %ecx mov  \$5,    %eax L2:  add  %eax, %ecx sub  \$1,    %eax jns  L2 </pre>		
4	<pre> mov  \$0,    %ecx mov  \$5,    %eax jmp  L3 L4:  add  \$1,    %ecx L3:  sub  %ecx, %eax ja   L4 </pre>		
5	<pre> mov  \$0,    %ecx mov  \$5,    %eax jmp  L5 L6:  add  %eax, %ecx add  \$1,    %eax L5:  test \$112, %ecx je   L6 </pre>		

## Jump Instructions

Instruction	Synonym	Condition	Description
<b>jmp Label</b>		Unconditional	Direct jump
<b>je Label</b>	<code>jz</code>	<code>ZF == 1</code>	Equal / zero
<b>jne Label</b>	<code>jnz</code>	<code>ZF == 0</code>	Not equal / not zero
<b>js Label</b>		<code>SF == 1</code>	Negative
<b>jns Label</b>		<code>SF == 0</code>	Nonnegative
<b>jg Label</b>	<code>jnl</code>	<code>(SF == 0F) &amp;&amp; (ZF == 0)</code>	Greater (signed >)
<b>jge Label</b>	<code>jnl</code>	<code>SF == 0F</code>	Greater or equal (signed >=)
<b>jl Label</b>	<code>jnge</code>	<code>SF != 0F</code>	Less (signed <)
<b>jle Label</b>	<code>jng</code>	<code>(SF != 0F)    (ZF == 1)</code>	Less or equal (signed <=)
<b>ja Label</b>	<code>jnbe</code>	<code>(CF == 0) &amp;&amp; (ZF == 0)</code>	Above (unsigned >)
<b>jae Label</b>	<code>jnb</code>	<code>CF == 0</code>	Above or equal (unsigned >=)
<b>jb Label</b>	<code>jnae</code>	<code>CF == 1</code>	Below (unsigned <)
<b>jbe Label</b>	<code>jna</code>	<code>(CF == 1)    (ZF == 1)</code>	Below or equal (unsigned <=)