

Problem 27. (7 points):

Match each of the assembler routines on the left with the equivalent C function on the right.

foo1:	<pre>pushl %ebp movl %esp,%ebp movl 8(%ebp),%eax sall \$4,%eax subl 8(%ebp),%eax movl %ebp,%esp popl %ebp ret</pre>	<pre>int choice1(int x) { return (x < 0); }</pre>
foo2:	<pre>pushl %ebp movl %esp,%ebp movl 8(%ebp),%eax testl %eax,%eax jge .L4 addl \$15,%eax .L4: sarl \$4,%eax movl %ebp,%esp popl %ebp ret</pre>	<pre>int choice2(int x) { return (x << 31) & 1; } int choice3(int x) { return 15 * x; } int choice4(int x) { return (x + 15) / 4 }</pre>
foo3:	<pre>pushl %ebp movl %esp,%ebp movl 8(%ebp),%eax shrl \$31,%eax movl %ebp,%esp popl %ebp ret</pre>	<pre>int choice5(int x) { return x / 16; } int choice6(int x) { return (x >> 31); }</pre>

Fill in your answers here:

foo1 corresponds to choice _____.

foo2 corresponds to choice _____.

foo3 corresponds to choice _____.