Some Practice Assembly Problems

November 12, 2015
Move and Load Effective Address Instructions

What value would be stored in register %ebx after each of the following operations?

- \texttt{movl 0x100, %ebx}

![Memory layout diagram]

- movl 0x100, %ebx
- movl $0x100, %ebx
- movl %eax, %ebx
- movl (%eax), %ebx
- movl 4(%eax), %ebx
- leal 4(%eax), %ebx
- movl 8(%eax, %ecx, 4), %ebx
- leal 8(%eax, %ecx, 4), %ebx
- leal 8(, %ecx, 4), %ebx
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![Memory Diagram]

- `leal 4(%eax), %ebx`
- `movl (%eax), %ebx`
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```
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<th>Value</th>
</tr>
</thead>
<tbody>
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<td>0x100</td>
<td>0x25</td>
</tr>
<tr>
<td>0x104</td>
<td>0x1C</td>
</tr>
<tr>
<td>0x108</td>
<td>0x19</td>
</tr>
<tr>
<td>0x10C</td>
<td>0x29</td>
</tr>
<tr>
<td>0x110</td>
<td>0x100</td>
</tr>
<tr>
<td>0x114</td>
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<tr>
<td>0x118</td>
<td>0x108</td>
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Memory layout:
- EAX: 0x100
- ECX: 0x1
- EDX: 0x4
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```plaintext
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