

CS5250 Advanced Operating Systems

Pop Quiz 2

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Write the snippet of x86-64 assembly code that will compute the polynomial:

$$a = 3x^3 - 4x^2 + x - 7$$

where “ a ” is **%rax** and x is in the memory location pointed to by **%rbp**. Both a and x are 64-bit integers. You may assume that all registers other than **%rbp**, **%rsp** and **%rip** are available for your use. The final answer is to be left in **%rax**.

```
mov rbx, rbp
mov rax, -7
add rax, rbx
imul rbx, rbp
mov rcx, rbx
imul rcx, -4
add rax, rcx
imul rbx, rbp
imul rbx, 3
add rax, rbx
```