

COMP 235 — Assembly Quizlet

You've been given a short C program along with the assembly generated from that file. Analyze the assembly and determine the answers to the following:

1. For *main*

- (a) attribute all lines of assembly to line of C or to function call prologue and epilogue code done at the assembly level. Label assembly line numbers with C line numbers.
- (b) determine the size of the stack frame in bytes
- (c) determine the location within the frame for each of the 3 arrays. List the locations relative to %rbp. For example, $[-10, -5]$ would refer to bytes %rbp-10 through %rbp-5.
- (d) draw a diagram showing how each byte of the stack frame is used. If bytes are allocated on the stack but not directly used, label them as unused.
- (e) determine the primary operand specifier for the variables A, B, and C.

2. For *initAll*

- (a) attribute all lines of assembly to line of C or to function call prologue and epilogue code done at the assembly level. Label assembly line numbers with C line numbers.
- (b) determine how much stack space is used
- (c) determine the primary operand specifier for variables a,b,c,i, and j.

3. For *matmul*

- (a) attribute all lines of assembly to line of C or to function call prologue and epilogue code done at the assembly level. Label assembly line numbers with C line numbers.
- (b) determine how much stack space is used
- (c) determine the primary operand specifier for variables a,b,c,i,j, and k

We'll spend some time in class getting started on this. This exercise is open book, open notes, open professor, open classmates, but not open internet. Do not consult with AI.