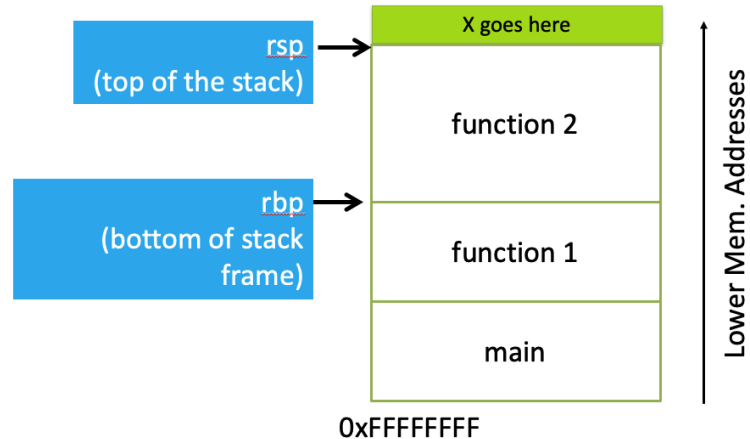


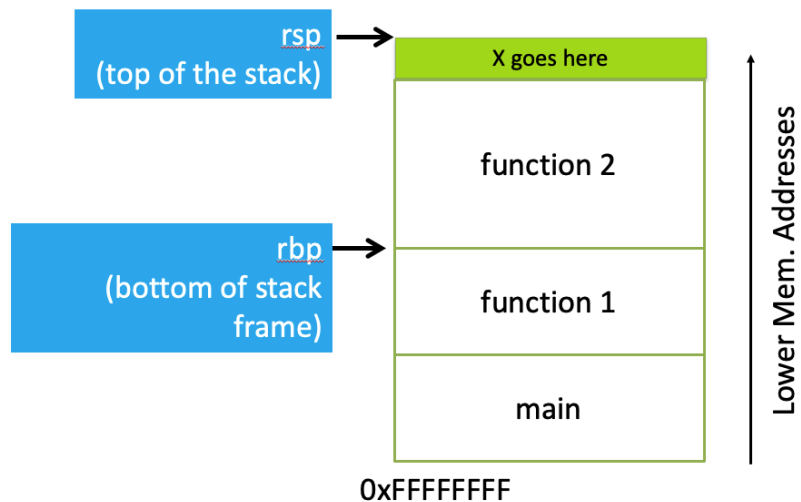
## CS31 Worksheet: Week 6: Functions and the Stack

How would we implement pushing a new variable (x) to the top of the stack in x86\_64?

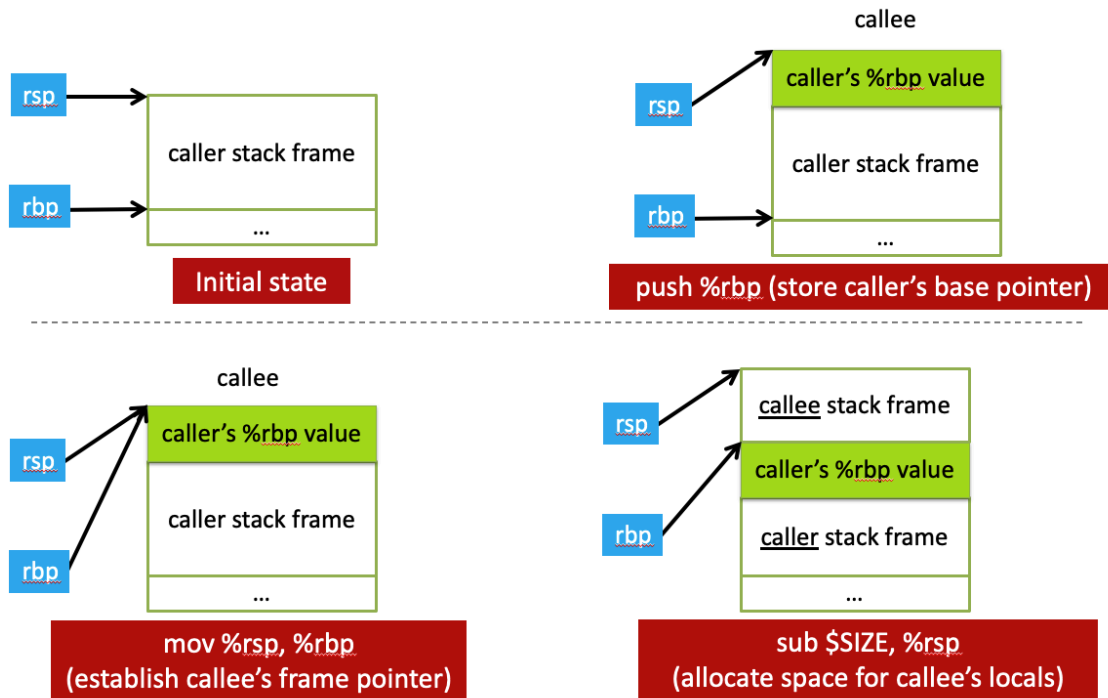
- A. Increment `rsp`  
Store x at (`rsp`)
- B. Store x at (`rsp`)  
Increment `rsp`
- C. Decrement `rsp`  
Store x at (`rsp`)
- D. Store x at (`rsp`)  
Decrement `rsp`
- E. Copy `rsp` to `rbp`  
Store x at `rbp`



How would we implement popping a new variable (x) off the top of the stack in x86\_64?



## x86 Calling Conventions: Function Call



Given the figure above, can you describe in figures, and words the sequence of instructions to return from a function call?