CS 208

M, 12 Feb 2024
Call a function
main Ṕ
f(a, b)
**main()**

```c
int a = 5;
int b = 9;
int c = f(a, b);
```

```c
3
h+ f(int x, int y) 3
return x*y;
```
int main() {  
    int a = 5;  
    int b = 9;  
    int c = f(a, b);  
    
    return a * b;  
}
Registers of interest

rip - address of next instruction

rsp - address of top of the stack

rbp -
retq

\{ 
  1. takes an 8-byte chunk from top of stack. Call it A
  2. adds 8 to rsp
  3. sets rip to A
\}

jump to address A
call q
push ret
push address
① Set rip to next instruction
② Push rip
    rsp = rsp - 8
    *rsp = rip
③ Set rip to destination address (i.e., addr of the function we're calling)