

CpS 230 Homework 3: Stack Frames

Answer key for class (FOR OFFICIAL USE ONLY)

1 Stack Frame Chart

Instructions: deduct 1 point for each table cell containing a mistake, for up to 15 points off.

Address	Value	Description
11100	???	saved EBP
11096	7400	bat
11092	4200	jackal
11088	8200	cat
11084	4200	pogo_stick
11080	7400	fire_engine
11076	???	(return address)
11072	11100	(saved EBP)
11068	3400	drill

2 Instruction Operands

Instructions: each blank is worth 1 point (no partial credit).

; Implementing line 16

```
push    dword [ebp + -8] ; Pass jackal
push    dword [ebp + -4] ; Pass bat
call    _lime
add     esp, 8           ; Remove parameters from stack
mov     [ebp + -12], eax ; Move return value into cat
```

; Implementing line 6

```
mov     eax, [ebp + 8]   ; Get fire_engine
add     eax, [ebp + -4]  ; Combine with drill
add     esp, 4           ; Release local variable storage
pop     ebp              ; Restore previous frame pointer
ret                                ; Return to caller
```