

# Architecture 1001: x86-64 Assembly SwitchExample2.c

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# SwitchExample.c

- Switch statements tend to look like a bunch of if-equal checks

```
#include <stdlib.h>
int main(int argc, char * argv[]) {
    int a = atoi(argv[1]);
    switch (a) {
        case 0:
            return 1;
        case 1:
            return 2;
        default:
            return 3;
    }
    return 0xfeefed;
}

00000000140001000 mov qword ptr [rsp+10h],rdx
00000000140001005 mov dword ptr [rsp+8],ecx
00000000140001009 sub rsp,38h
0000000014000100D mov eax,8
00000000140001012 imul rax,rax,1
00000000140001016 mov rcx,qword ptr [rsp+48h]
0000000014000101B mov rcx,qword ptr [rcx+rax]
0000000014000101F call qword ptr [00000000140004178h]
00000000140001025 mov dword ptr [rsp+24h],eax
00000000140001029 mov eax,dword ptr [rsp+24h]
0000000014000102D mov dword ptr [rsp+20h],eax
00000000140001031 cmp dword ptr [rsp+20h],0
00000000140001036 je 00000000140001041
00000000140001038 cmp dword ptr [rsp+20h],1
0000000014000103D je 00000000140001048
0000000014000103F jmp 0000000014000104F
00000000140001041 mov eax,1
00000000140001046 jmp 0000000014000105B
00000000140001048 mov eax,2
0000000014000104D jmp 0000000014000105B
0000000014000104F mov eax,3
00000000140001054 jmp 0000000014000105B
00000000140001056 mov eax,0FEE1FEDh
0000000014000105B add rsp,38h
0000000014000105F ret
```



**STOP**



**STEP THROUGH  
THE ASSEMBLY**



**CHECK YOUR UNDERSTANDING**



**STOP**



**STEP THROUGH  
THE ASSEMBLY**



**CHECK YOUR UNDERSTANDING**