

Get integer input from scanf

If input is lesser or equal to 0 then branch to other instructions, else compare input to see if it is greater than 10

```
0x40061f <main+56>    call    0x4004f0 <__isoc99_scanf@plt>
0x400624 <main+61>    mov     eax, DWORD PTR [rbp-0x4]
→ 0x400627 <main+64>    test    eax, eax
0x400629 <main+66>    jle     0x40067d <main+150>
```

Comparing input to 10(0xA)

```
0x40062e <main+71>    cmp     eax, 0xa
0x400631 <main+74>    jg      0x40067d <main+150>
```

This whole assembly code corresponds to

```
→ 11      if(start>0 && start<11) {
```

Whole code consists of

1. Moving of variables, in this example, start is located at rbp-0x4
2. Loading argument into proper registers, rdi for message and format specifier, rsi for count value

```
gef> x/s 0x400752
0x400752:      "Countdown -> %d\n"
gef>
```

```
gef> x/wx $rbp-4
0x7fffffffef41c: 0x00000004
gef>
```

```
0x40063d <main+86>    mov     eax, DWORD PTR [rbp-0x4]
→ 0x400640 <main+89>    mov     esi, eax
0x400642 <main+91>    lea     rdi, [rip+0x109]      # 0x400752
0x400649 <main+98>    mov     eax, 0x0
0x40064e <main+103>   call    0x4004e0 <printf@plt>
```

Whole code consists of

1. Loading variable value from memory to register and decrementing it
2. Does a comparison and if value is greater than zero, loop continues

```

0x400653 <main+108>      mov     eax, DWORD PTR [rbp-0x4]
→ 0x400656 <main+111>      sub     eax, 0x1
0x400659 <main+114>      mov     DWORD PTR [rbp-0x4], eax
0x40065c <main+117>      mov     eax, DWORD PTR [rbp-0x4]
0x40065f <main+120>      test    eax, eax
0x400661 <main+122>      jg      0x40063d <main+86>

```

```

gef> print $eflags
$1 = [ PF IF ]
gef>

```

If start is 0 or lesser

```

→ 0x400661 <main+122>      jg      0x40063d <main+86>      NOT taken [Reason: !(IZ && S==0)]

```

```

gef> print $eflags
$2 = [ PF ZF IF ]

```

This whole code consists of printing messages after the loop

```

0x400663 <main+124>      lea     rdi, [rip+0xf9]          # 0x400763
0x40066a <main+131>      call    0x4004d0 <puts@plt>
0x40066f <main+136>      lea     rdi, [rip+0xf5]          # 0x40076b
0x400676 <main+143>      call    0x4004d0 <puts@plt>

```

Return(0)

```

→ 0x400689 <main+162>      mov     eax, 0x0
0x40068e <main+167>      leave
0x40068f <main+168>      ret

```