

N = 0x4e

Jump if not equal

If it is equal, zero flag is set

```
0x400595 <main+30>    mov     BYTE PTR [rbp-0x1], al
0x400598 <main+33>    cmp     BYTE PTR [rbp-0x1], 0x4e
0x40059c <main+37>    jne     0x4005ac <main+53>
```

```
gef> x/bx $rbp-1
0x7fffffffef41f: 0x4e
gef>
```

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

Z = 0x5a

Jump if not equal

If it is not equal, zero flag is not set

```
0x400595 <main+30>    mov     BYTE PTR [rbp-0x1], al
0x400598 <main+33>    cmp     BYTE PTR [rbp-0x1], 0x4e
→ 0x40059c <main+37>    jne     0x4005ac <main+53>    TAKEN [Reason: !Z]
└ 0x4005ac <main+53>    lea     rdi, [rip+0xdd]      # 0x400690
```

```
gef> x/bx $rbp-1
0x7fffffffef41f: 0x5a
gef> |
```

```
gef> print $eflags
$2 = [ PF AF IF ]
gef>
```

Single quote, double quote

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**NOTE 1:**

To elaborate on the difference between single quotes for `char` literals and double quotes for *string literal* s,

For `char` literal, `c11`, chapter §6.4.4.4

An integer character constant is a sequence of one or more multibyte characters enclosed in single-quotes, as in `'x'`

and, for *string literal*, chapter §6.4.5

A character string literal is a sequence of zero or more multibyte characters enclosed in double-quotes, as in `"xyz"`.



3



There is difference between `'a'` (a character) and `"a"` (a string having two characters `a` and `\0`). `ch=="a"` comparison will be evaluated to `false` because in this expression `"a"` will be converted to pointer to its first element and of course that address is not a character but a hexadecimal number.

Change it to



```
if(ch=='a')
```