difference between #if defined(WIN32) and #ifdef(WIN32)

I am compiling my program that will running on linux gcc 4.4.1 C99.

I was just putting my #defines in to separate the code that will be compiled on either windows or linux. However, I got this error.

```
error: macro names must be identifiers.
```

Using this code

```
#ifdef(WIN32)
/* Do windows stuff
#elif(UNIX)
/* Do linux stuff */
#endif
```

However, when I changed to this the error was fixed:

```
#if defined(WIN32)
/* Do windows stuff
#elif(UNIX)
/* Do linux stuff */
#endif
```

I was just wondering why I got that error and why the #defines are different?

Many thanks,

c

edited Mar 26 '14 at 14:04
ubiquibacon
3,955 15 65 130

asked Nov 11 '09 at 10:09
ant2009
825 71 216 354

3 Answers

If you use #ifdef syntax, remove the brackets.

The difference between the two is that `#ifdef` can only use a single condition, while `#if defined(NAME)` can do compound conditionals.

For example in your case:

```
#if defined(WIN32) && !defined(UNIX)
/* Do windows stuff */
#elif defined(UNIX) && !defined(WIN32)
/* Do linux stuff */
#else
/* Error, both can't be defined or undefined same time */
#endif
```

edited Jul 24 '14 at 1:42
notbad.jpeg
1,218 9 24

answered Nov 11 '09 at 10:11
user44556
1,789 2 19 23

2 yeah, but you could also cascade #ifdef UNIX with #ifndef WIN32, and get the same flexibility (not as readable, I agree) – jpinto3912 Nov 11 '09 at 11:42

```
#ifdef FOO
```

and

```
#if defined(FOO)
```

are the same,

but to do several things at once, you can use defined, like

```
#if defined(FOO) || defined(BAR)
```

edited Oct 20 '12 at 16:45
Bo Persson
50.9k 10 62 125

answered Oct 20 '12 at 13:00
neha
141 1 2

`#ifdef` checks whether a macro by that name has been defined, `#if` evaluates the expression and checks for a true value

```
#define FOO 1
#define BAR 0

#ifdef FOO
#ifdef BAR
/* this will be compiled */
#endif
#endif

#if BAR
/* this won't */
#endif

#if FOO || BAR
/* this will */
#endif
```

answered Nov 11 '09 at 10:23
johannes
9,330 1 23 45