

Save the file to disk and name it HTEST.C. Compile and run. Don't be stunned if you find no errors. Believe it or not, everything should work out just fine. Here's a peek at what the output should look like:

```
This guy is happy: ☺
```

Mr. HAPPY is happy. You may be happy too, after understanding what went on. Here's the blow-by-blow:

The second `#include` (Line 2) brings into your source code the HEAD.H file you may have created earlier in this chapter. All the instructions in that file are magically included with your source code when HTEST1.C is compiled (as are the instructions from the standard I/O header file, STDIO.H).

If you recall, inside the HEAD.H header file are a few of those `#define` directives, which tell the compiler to substitute certain characters or C language words with happy euphemisms. (Refer to your HEAD.H file, if you need to.) For example, the word SPIT was defined as equal to the left curly brace. So, SPIT is used in the program rather than the first curly brace in Line 5:

```
SPIT
```

The word BELCH was defined to be equal to the word `printf`, so it serves as a substitute for that function as well in Line 6, and in Line 8 you see the word SPOT used rather than the final curly brace.

Just about anything in a C program can wend its way into your own, personal header files. `#define` statements are the most popular. Also allowed are comments, variable definitions, advanced things called *structures*, and even source code (though that's rare). Remember that because it's eventually copied into your source code, anything that normally would go there can also go into a header file.



- Mostly, any header file you write yourself contains a lot of `#defines`. A doozy I wrote for one program, for example, listed all the `#defines` for strange key combinations on the keyboard. For example:

```
#define F1 0x3B00
```

This line allows me to use the characters F1 rather than have to remember (or constantly look up) the ugly value the computer understands as the F1 key.

- Can't remember the code for the happy face? Just `#define` it in your own header file and use it instead, which is what is done here.
- There's no reason to redefine C language words and functions (unless you want to goof someone up). However, the first `#define` in HEAD.H sets the word HAPPY equal to the value of the PC's happy-face character, 0x01.