

6.1 Basics of Variable References

To substitute a variable's value, write a dollar sign followed by the name of the variable in parentheses or braces: either `$(foo)` or `${foo}` is a valid reference to the variable `foo`. This special significance of `'$'` is why you must write `'$$'` to have the effect of a single dollar sign in a file name or recipe.

要替换变量的值，请写一个美元符号，后跟括号或大括号中的变量名称：`$(foo)` 或 `${foo}` 是对变量 `foo` 的有效引用。`'$'` 的这种特殊意义导致为什么你必须写 `'$$'` 以在文件名或配方中产生单个美元符号的效果。

Variable references can be used in any context: targets, prerequisites, recipes, most directives, and new variable values. Here is an example of a common case, where a variable holds the names of all the object files in a program:

```
objects = program.o foo.o utils.o
program : $(objects)
         cc -o program $(objects)

$(objects) : defs.h
```

变量引用可以在任何上下文中使用：目标、先决条件、配方、大多数指令和新变量值。这里有一个常见情况的示例，其中一个变量保存程序中所有目标文件的名称：

```
objects = program.o foo.o utils.o
program : $(objects)
         cc -o program $(objects)

$(objects) : defs.h
```

Variable references work by strict textual substitution. Thus, the rule

```
foo = c
prog.o : prog.$(foo)
        $(foo)$(foo) -$(foo) prog.$(foo)
```

could be used to compile a C program `prog.c`. Since spaces before the variable value are ignored in variable assignments, the value of `foo` is precisely `'c'`. (Don't actually write your makefiles this way!)

变量引用通过严格的文本替换工作。因此，该规则可用于编译 C 程序 prog.c。由于在变量赋值中变量值之前的空格被忽略，所以 foo 的值恰好是“c”。（实际上不要以这种方式编写您的 makefile!）

A dollar sign followed by a character other than a dollar sign, open-parenthesis or open-brace treats that single character as the variable name. Thus, you could reference the variable x with '\$x'. However, this practice can lead to confusion (e.g., '\$foo' refers to the variable f followed by the string oo) so we recommend using parentheses or braces around all variables, even single-letter variables, unless omitting them gives significant readability improvements. One place where readability is often improved is automatic variables (see Automatic Variables).

美元符号后跟除美元符号、左括号或左大括号以外的字符时，将该单个字符视为变量名。因此，您可以使用“\$x”来引用变量 x。但是，这种做法可能会导致混淆（例如，'\$foo' 指的是变量 f 后跟字符串 oo），因此我们建议在所有变量周围使用圆括号或大括号，甚至是单字母变量，除非省略它们会显著提高可读性。通常提高可读性的一个地方是自动变量（请参阅自动变量）。
