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## Program Output as Arguments

Filename expansion from metacharacters is the most common way to generate arguments (apart from providing them explicitly). There is another of generating arguments which is fairly commonly. This is to use the output of a program as arguments to another. The output of a command can be placed on the command line by enclosing it in back quotes ``...``.

```
$ echo At the tone the time will be `date`.
At the tone the time will be Wed Mar  1 10:15:32
NZDT 1995.
```

Back quotes are interpreted inside double quotes.

```
$ echo "At the tone
> the time will be `date`."
At the tone
the time will be Wed Mar  1 10:15:45 NZDT 1995.
```

This may not seem very useful, but here is an example which shows how the feature can be used.

As noted earlier, the command `grep` can be used to find patterns in a file. When invoked as

```
$ grep -l pattern filenames
```

`grep` will print the names of those files in the list *filenames* which contain the specified pattern. Thus if we wanted to edit all the files in a directory containing the word `money`, we could issue the command:

```
$ vi `grep -l money *`
```

A particular use of backquotes is to reset the values of the command line arguments. This is done with the shell `set` command. The command

```
$ set word1 word2 ...
```

resets the value of `$1` to *word1*, `$2` to *word2*, etc. The combination of backquotes and the `set` command can be use to make the output from a command available in `$1`, `$2`, etc. For example the command

```
$ set `date`
```

sets `$1`, `$2`, etc. to the words that make up the output from `date`. Thus `$1` is the day of the week, `$2` is the month, `$3` is the day of the month, `$4` is the time, `$5` is the time zone and `$6` is the year.

An additional use for backquotes is the manipulation of shell variables. We now turn to these.

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