dd (write data to devices)

This command is used to write large amounts of data to a device. For example, I sometimes use *dd* to write an image file to an SD card. This is done as follows:

```
dd if=your_image.img of=/dev/sdx bs=1M
```

As you may imagine, *if* means “input file”, *of* means “output file”, and *bs* stands for “block size”. Of course, you need to substitute the device file name of your card reader for /dev/sdx. You should double- and triple-check this, because you're in for a terrible data loss if you write to the wrong device!

This also works the other way round, that is, you can backup the contents of an SD card like this:

```
dd if=/dev/sdx of=backup.img bs=1M
```

Have you ever sold a used computer or hard disk? I hope that you didn't just delete your files or reformat the disk, because deleted files may be recoverable even if the disk has been reformatted. The easiest way to wipe a hard drive clean is to fill it with zeros (overwriting any data still present). This can be done with *dd*:

```
dd if=/dev/zero of=/dev/sdx bs=1M
```

The operation may take several hours to complete since it will set every single bit of your hard disk to zero. /dev/zero is an interesting device that outputs nothing but a stream of zeros.

An even more secure way of erasing a hard drive is to populate it with random bits instead of zeros, like this:

```
dd if=/dev/urandom of=/dev/sdx bs=1M
```

The device /dev/urandom outputs a random stream of ones and zeros. This is more secure than just using zeros, but it takes longer. If you're not a secret agent, filling your hard drive with zeros before selling it should provide a reasonable degree of security.