

The hardware of a disk knows only four things: Cylinder, Track, and Sector number and whether or not you want to read or write. (Often the three address components are combined into a single linear block address.)

Everything else is software.

The most important things on a hard disk are:

1. Boot Information
2. Self-Description information
3. Free Space
4. Allocated Space
5. Location and/or contents of the root directory.

Different file systems are characterized by how all this information is recorded. There are three basic types of file systems:

(Multiple) Contiguous block  
Linked List  
Indexed

We will cover all of these plus some variants.