

# File Management

## File:

A file is named collection of related information that is recorded on secondary storage such as magnetic disks, magnetic tapes & optical disks.

In general, a file is a sequence of bits, bytes, lines or records whose meaning is defined by the files creator and user.

## File Attributes:

A file attributes vary from o.s. to o.s.

### ① Name:

The symbolic file name is the only information kept in human readable form.

### ② Identifier:

This unique tag, usually a number, identifies the file within the file system.

### ③ Type:

This information is needed for systems that support that different types of files.

### ④ Location:

This information is a pointer to a device and to the location of the file on that device.

### ⑤ Size:

The current size of the file (in bytes, words, blocks)

& possibly the maximum allowed size are included in this attribute.

#### ⑥ Protection:

Access-control information determines who can do reading, writing, executing & so-on.

#### ⑦ Time, date & user identification:

This information may be kept for creation, last modification, & last use.

### File operations:

#### ① creating a file:

Two steps are needed.

First, space in the file system must be found for file.  
Second, an entry for new file must be made in the directory.

#### ② writing a file:

To write a file, we make a system call specifying both the name of the file and the information to be written to the file.

#### ③ Reading a file:

To read from a file, we use a system call that specifies the name of the file & where the next block of the file should be put.

#### ④ Repositioning within a file: (file seek)

The directory is searched for the appropriate entry, & the current-file position pointer repositioned to a given value.

#### ⑤ Deleting a file:

To delete a file, we search the directory for the named file. After finding entry, we release all file space, so that it can be reused by other files & erase the directory entry.

#### ⑥ Truncating a file:

The user may want to erase the contents of a file but keep its attributes. Rather than deleting file, this function allows all attributes to remain unchanged, except for file length.