

SEEKING

Seeking

The action of moving directly to a certain position in a file is called seeking.

seek

To move to a specified location in a file.

byte offset

The distance, measured in bytes, from the beginning.

- Seeking moves an attribute in the file called the *file pointer*.
- C++ library functions allow seeking.
- In DOS, Windows, and UNIX, files are organized as streams of bytes, and locations are in terms of byte count.
- Seeking can be specified from one of three reference points:
 - The beginning of the file.
 - The end of the file.
 - The current file pointer position.

A seek requires two arguments

```
Seek(Source_file, Offset)
```

Source_file **The logical file name in which the seek will occur.**

Offset **The number of positions in the file the pointer is to be moved from the start of the file.**

Example

```
Seek(data, 373)
```

2.5.1 Seeking with C Streams

Fseek function:

```
pos = fseek(file, byte_offset, origin)
```

The C++ *fseek* function is used to move the file pointer of a file identified by its FILE structure.

The FILE fseek function must be supplied with (as an arguments):

- The file descriptor of the file(file)
- The number of bytes to move from some origin in the file(byte_offset)
- The starting point from which the byte_offset is to be taken(origin)

The Origin argument should be one of the following, to designate the reference point:

SEEK_SET: Beginning of file

SEEK_CUR: Current file position

SEEK_END: End of file

The value returned(pos) by the *fseek* function is the position of the read/write pointer from the beginning of the file after its moved

Prototypes:

```
long fseek (FILE * file, long Offset, int Origin);
```

Example:

```
long pos;
```

```
fseek (FILE * file, long Offset, int Origin);
```

```
...
```

```
pos=fseek (Output, 100, SEEK_BEG);
```

2.5.2 Seeking with C++ Stream Classes

In C++, an object of type `fstream` has 2 file pointers: a get pointer for input and a put pointer for output. Two functions for seeking are

`seekg`: moves get pointer

`seekp`: moves put pointer

syntax for seek operations:

```
file.seekg(byte_offset,origin)
```

```
file.seekp(byte_offset,origin)
```

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