



RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

BCS-501 Operating System

Lecturer-28

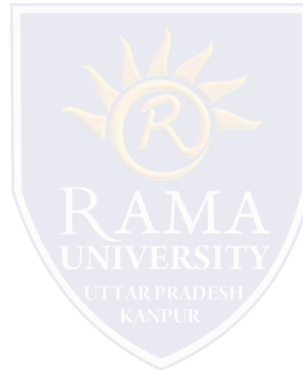
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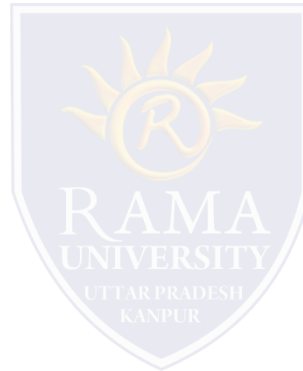
File Concept

- **Motive of File concept**
- **File Concept**
- **File Attributes**
- **File info Window on Mac OS X**
- **File Operations**



Motive of File concept

- To explain the function of file systems
- To describe the interfaces to file systems
- To discuss file-system design tradeoffs, including access methods, file sharing, file locking, and directory structures
- To explore file-system protection



File Concept

- Contiguous logical address space

- Types:

- Data

- numeric

- character

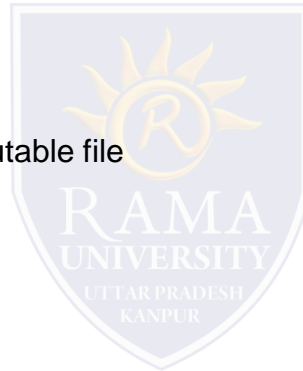
- binary

- Program

- Contents defined by file's creator

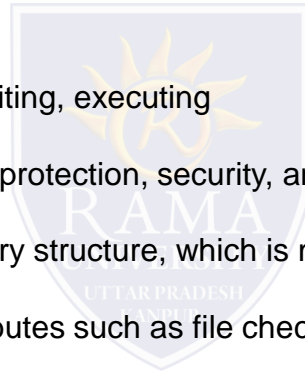
- Many types

- Consider text file, source file, executable file

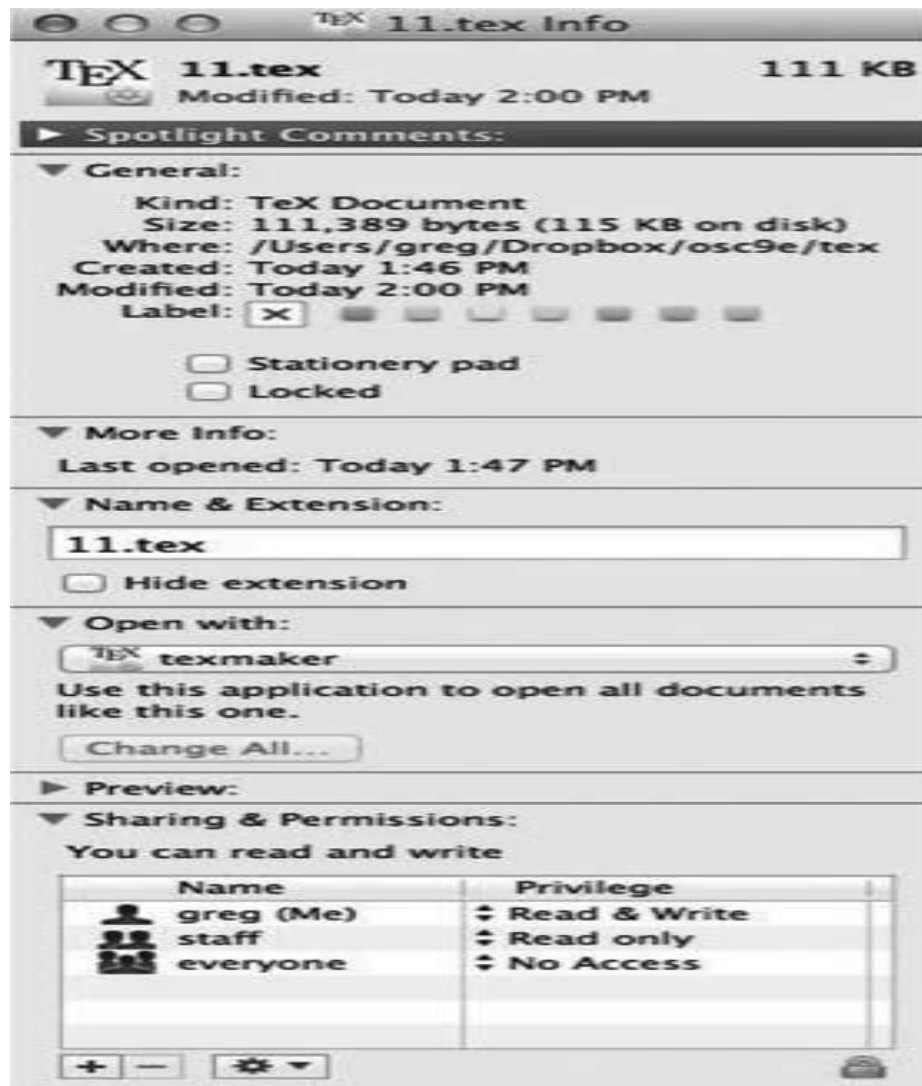


File Attributes

- Name – only information kept in human-readable form
- Identifier – unique tag (number) identifies file within file system
- Type – needed for systems that support different types
- Location – pointer to file location on device
- Size – current file size
- Protection – controls who can do reading, writing, executing
- Time, date, and user identification – data for protection, security, and usage monitoring
- Information about files are kept in the directory structure, which is maintained on the disk
- Many variations, including extended file attributes such as file checksum
- Information kept in the directory structure



File info Window on Mac OS X



File Operations

File is an abstract data type-----

- Create
- Write – at write pointer location
- Read – at read pointer location
- Reposition within file – seek
- Delete
- Truncate
- Open*(F_i) – search the directory structure on disk for entry F_i , and move the content of entry to memory
- Close* (F_i) – move the content of entry F_i in memory to directory structure on disk.



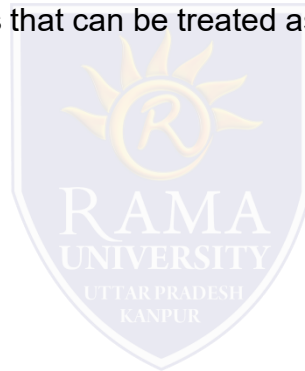


A is the basic element of data where individual field contains a single value, such as an employees last name, a data or the value of the sensor reading.

- A) field
- B) record
- C) file
- D) database

A is collection of related fields that can be treated as a unit by some application program.

- A) field
- B) record
- C) file
- D) database



The is responsible for all file I/O initiation and termination.

- A) Device drivers
- B) Physical I/O
- C) Basic I/O supervisor
- D) Logical I/O

..... provides a general purpose record I/O capability and maintains basic data about files.

- A) Device drivers
- B) Physical I/O
- C) Basic I/O supervisor
- D) Logical I/O

In file organization, a fixed format is used for records where all records are of the same length, consisting of the same number of fixed length fields in a particular order.

- A) pile
- B) sequential
- C) indexed sequential
- D) indexed

