

# CSC369 Week 8 Notes

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- File Systems
  - Is the part of operating system dealing with files <sup>[2]</sup>
  - Controls how data is stored and retrieved. <sup>[1]</sup>
    - \* Without a file system, data placed in a storage medium is one large body of data with no way to tell where it stops and the next begins

## **References:**

- 1) Wikipedia: File Systems, link
- 2) Tanebaum AS, Boss H. 2015. Modern Operating Systems. 4th Edition. New Jersey: Pearson Education, Inc.

- File Concept
  - Files
    - \* Are logical units of information created by processes <sup>[1]</sup>
    - \* Is named collection of data with some attributes
      1. Name
      2. Owner
      3. Location
      4. Size
      5. Protection
      6. Creation Time
      7. Time of Last Access

## **References:**

- 1) Tanebaum AS, Boss H. 2015. Modern Operating Systems. 4th Edition. New Jersey: Pearson Education, Inc.

- Directories
  - Are file system files for maintaining the structure of the file system <sup>[1]</sup>
  - Serves multiple purposes
    - \* *Users* → provides a structured way to organize files
    - \* *File System* → provides a convenient naming interface that allows the implementation to separate **logical file** organization from **physical file** placement on the disk
      - **Logical files:**
      - **Physical files:**
    - \* Stores information about files (owner, permission, etc)

### References:

- 1) Tanenbaum AS, Bos H. 2015. Modern Operating Systems. 4th Edition. New Jersey: Pearson Education, Inc.

- File Links
- Symbolic vs Hard Links
- File Sharing
- Protection
- Unix Inodes and Path Search
- File Buffer Cache