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# FACULTY OF ENGINEERING & TECHNOLOGY

## BCS-501 Operating System

## Lecturer-31

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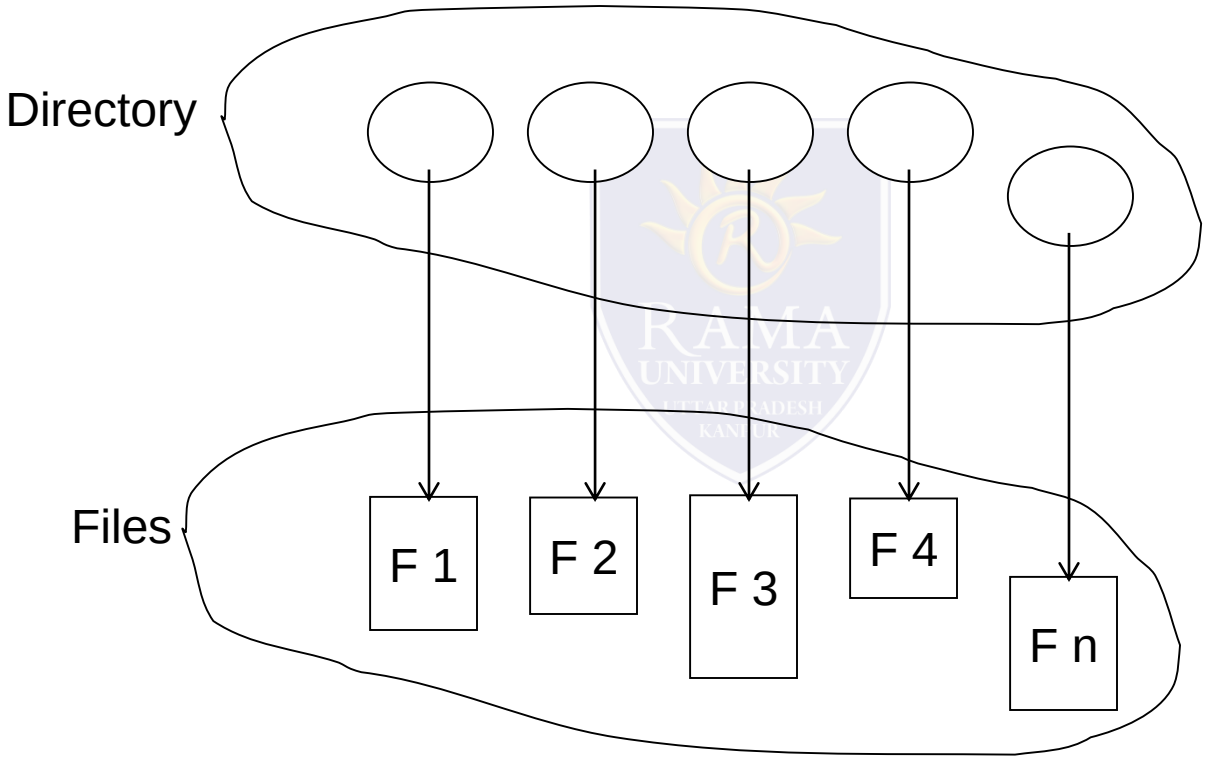
# File-system

- Directory Structure
- Disk Structure
- File-system Organization
- Types of File Systems

# Directory Structure

•A collection of nodes containing information about all files




Both the directory structure and the files reside on disk

# Disk Structure

•Disk can be subdivided into partitions

•Disks or partitions can be RAID protected against failure

•Disk or partition can be used raw – without a file system, or formatted with a file system

•Partitions also known as minidisks, slices

•Entity containing file system known as a volume

•Each volume containing file system also tracks that file system's info in device directory or volume table of contents

•As well as general-purpose file systems there are many special-purpose file systems, frequently all within the same operating system or computer

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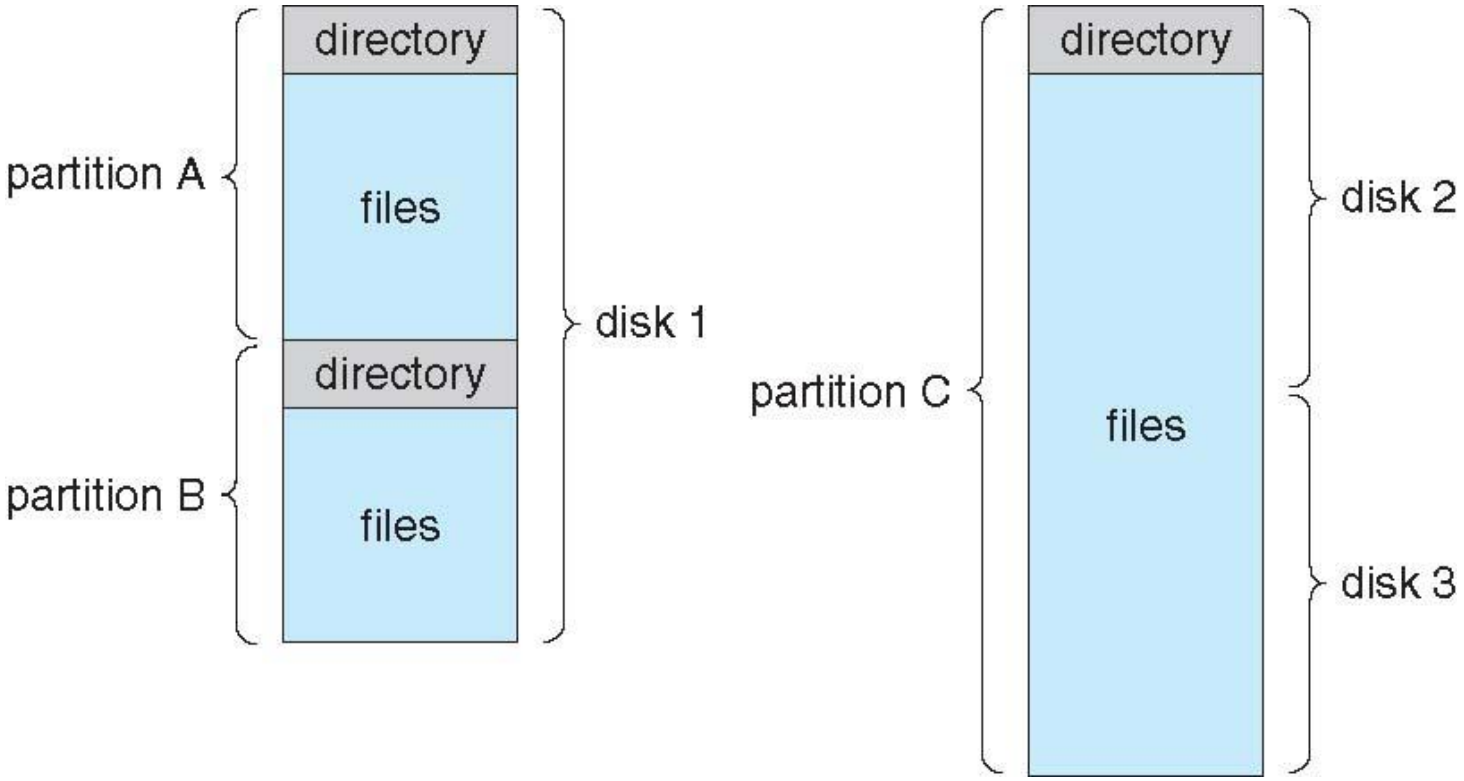
# File-system Organization



# Types of File Systems

- We mostly talk of general-purpose file systems
- But systems frequently have may file systems, some general- and some special- purpose
- Consider Solaris has….
  - tmpfs – memory-based volatile FS for fast, temporary I/O
  - objfs – interface into kernel memory to get kernel symbols for debugging
  - ctfs – contract file system for managing daemons
  - lofs – loopback file system allows one FS to be accessed in place of another
  - procfs – kernel interface to process structures
  - ufs, zfs – general purpose file systems

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# MCQ

An alternative is to organize the sequential file physically is a ……..
A) List
B) Linked List
C) Queue
D) Stack

What is the memory from 1K - 640K called ?
A. Memory
B. Normal Memory
C. Low Memory
D. Conventional Memory

…….. are small fixed portions which provide greater flexibility which may require large tables or complex structures for their allocation.
A) Blocks
B) Columns
C) Segments
D) Partitions

Directories, pricing tables, schedules and name lists are the examples of …….
A) Indexed files
B) Direct files
C) Sequential files
D) Indexed Sequential files

An interactive user or a process has associated with pathname is a current directory which is often referred to as the …….

A) update directory
B) list directory
C) working directory
D) create directory

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