



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.

An Autonomous Institution

**Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

COURSE NAME : OPERATING SYSTEMS

II YEAR/ IV SEMESTER

UNIT – IV FILE SYSTEMS

Topic: Directory Implementation

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Directory
Implementation

23CST202/OS/Directory
Implementation/Dr.B.Vinodhini/ASP/CSE



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File System Structure

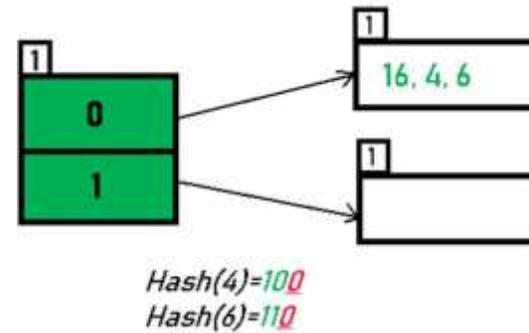


File System Implementation

On-disk structures

In-memory structures

Process ID
State
Pointer
Priority
Program counter
CPU registers
I/O information
Accounting information
etc....



Directory Implementation

Linked List

Hash Table

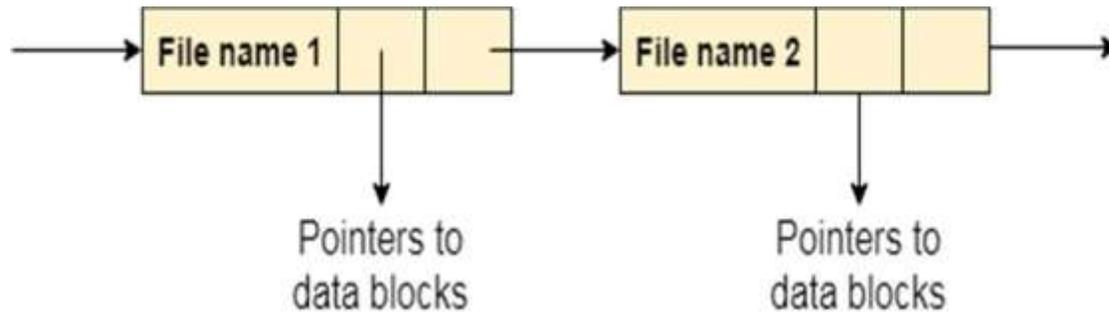


Directory Implementation

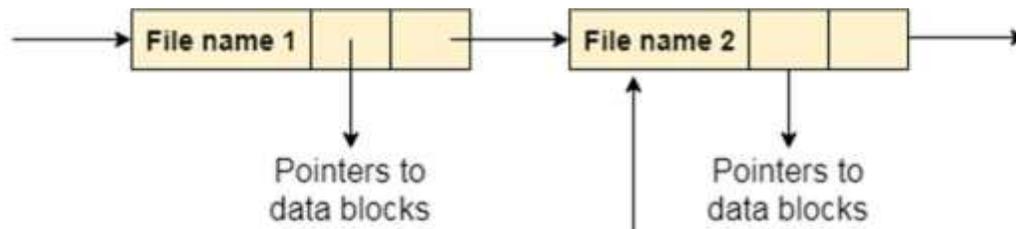
- **Linear list** of file names with pointer to the data blocks.
 - simple to program
 - time-consuming to execute
- **Hash Table** – linear list with hash data structure.
 - decreases directory search time
 - *collisions* – situations where two file names hash to the same location
 - fixed size



Directory Implementation



Linear List



Key 1	Value 1
Key 2	Value 2
Key n	Value n

Hash Table

Hash_Function(file_name) = key

Value → File



Summarization

23CST202/OS/Directory
Implementation/Dr.B.Vinodhini/ASP/CSE