



SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

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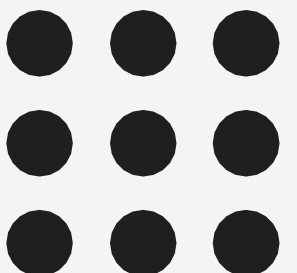
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DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

Course Code and Name : 23ITB203 / Principles of Operating Systems

II YEAR / IV SEMESTER

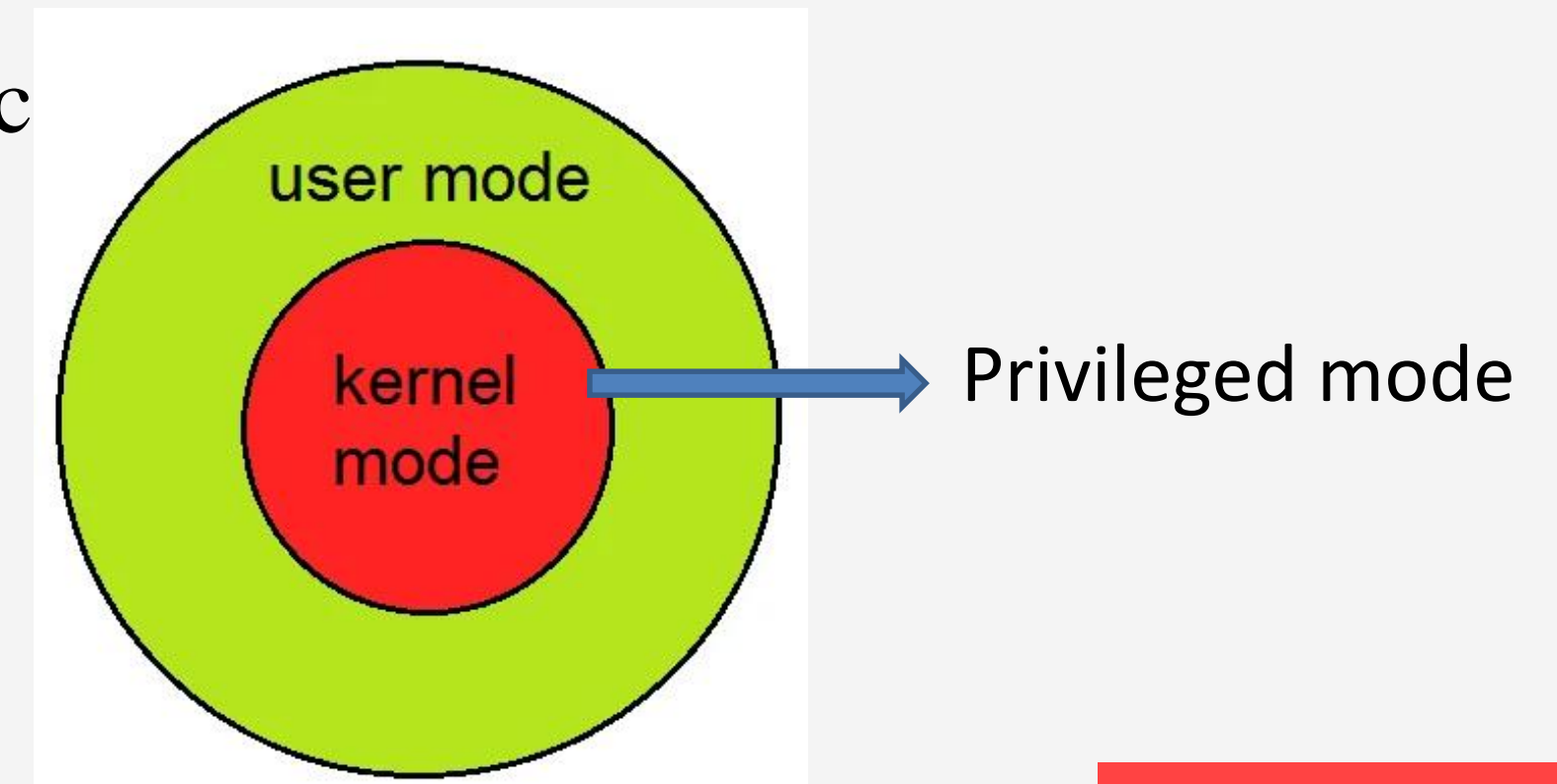
Unit 1: System Calls



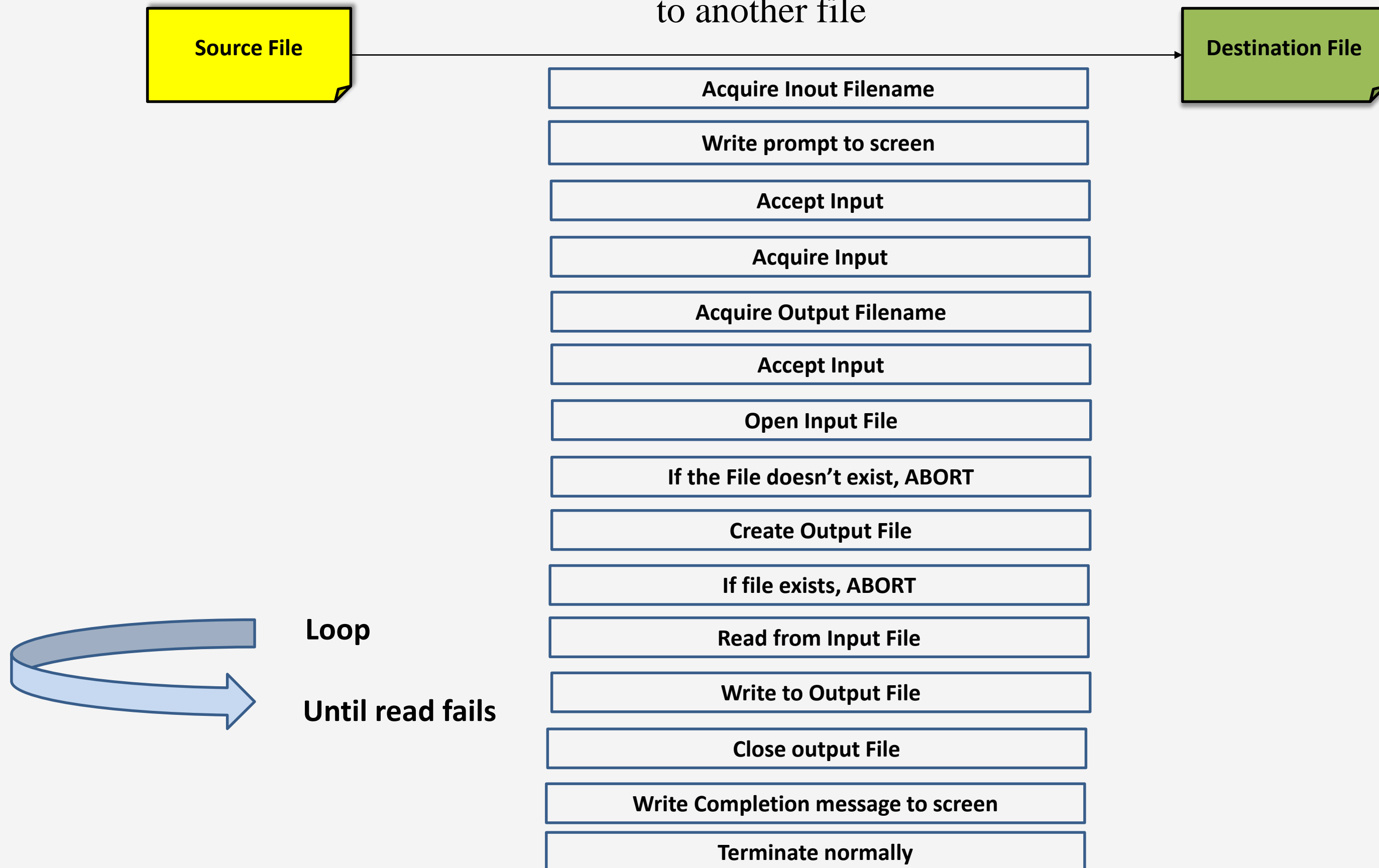
System Calls

System calls provide an interface to the services made available by an Operating system

- System call is a programmatic way in which program request a service from the kernel of the operating system
- These calls are generally available as routines available in C and C++



Example of a system call sequence for writing a simple program to read data from one file and copy them to another file



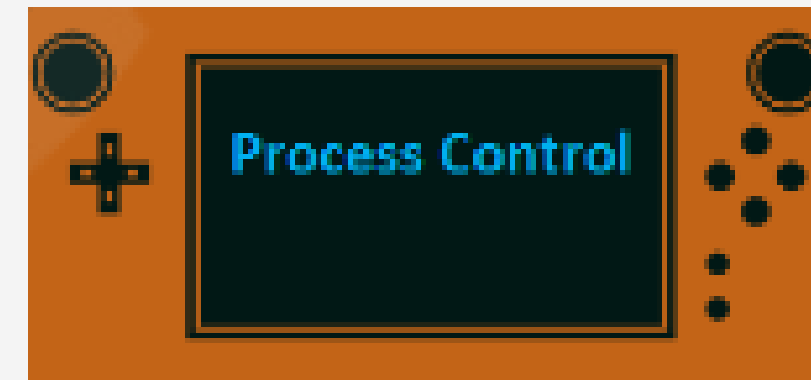
Types of System Calls

System calls can be grouped roughly into five major categories

1. Process Control
2. File Manipulation
3. Device Management
4. Information Maintenance
5. Communications

1. Process Control

- end, abort
- load, execute
- create process, terminate process
- get process attributes, set process attributes
- wait for time
- wait event, signal event
- allocate and free memory



2. File Manipulation

- create file, delete file
- open, close
- read, write, reposition
- get file attributes, set file attributes



3. Device Manipulation

- request device, release device
- read, write, reposition
- get device attributes, set device attributes
- logically attach or detach devices



4. Information Maintenance

- get time or date, set time or date
- get system data, set system data
- get process, file, or device attributes
- set process, file, or device attributes



3. Communications

- create, delete communication connection
- send, receive messages
- transfer status information
- attach or detach remote device

