



SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

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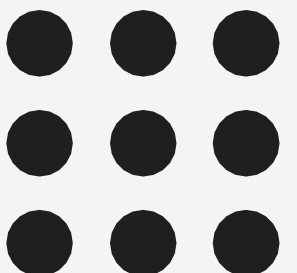
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DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

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

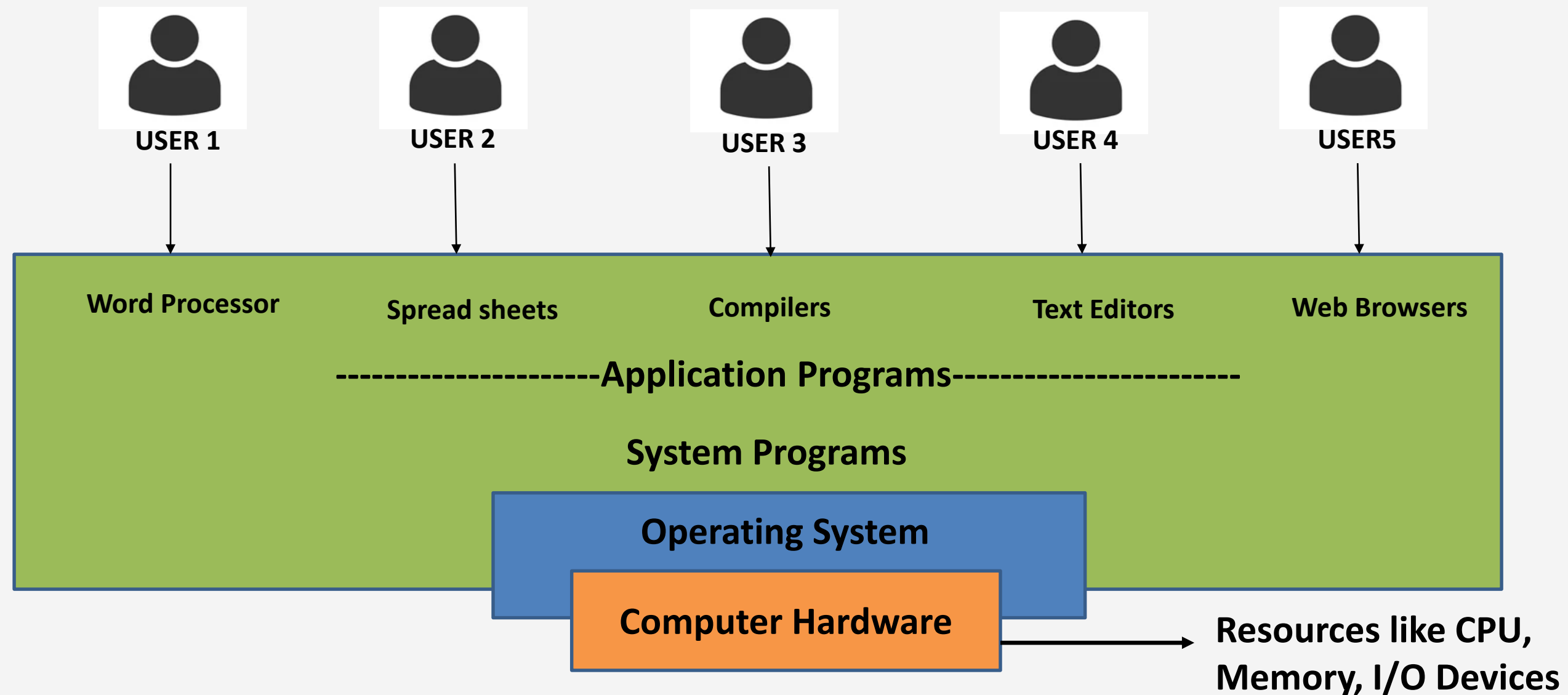
II YEAR / IV SEMESTER

Unit 1: System Programs



System Programs

An important aspect of a modern system is the collection of system programs.



- System programs provide a convenient environment for program development and execution.
- Some of them are simply user interfaces to system calls.
- Others are considerably more complex.

System Programs can be divided into the following categories

File Management

- Create
- Delete
- Copy
- Rename
- Print
- Dump
- List, and generally manipulate files and directories



Status Information

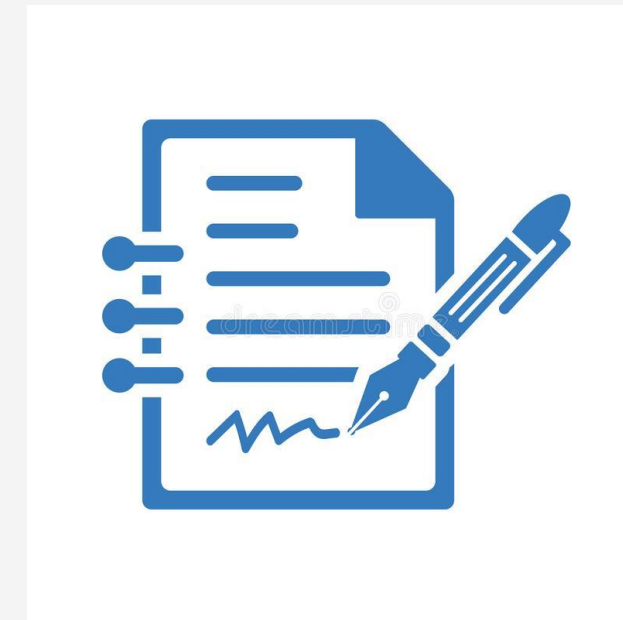
Ask the system for:

- Date , Time
- Amount of available memory or disk space
- Number of users
- Detailed performance
- Logging, and debugging information etc..



File modification

- Several text editors may be available to create and modify the content of files stored on disk or other storage devices.
- There may also be special commands to search contents of files or perform transformations of the text.



3. Programming-language support

- Compilers
- Assemblers
- Debuggers and
- Interpreters

For common programming languages (such as C, C++, Java, Visual Basic, and PERL) are often provided to the user with the operating system.



Program loading and execution

Once a program is assembled or compiled, it must be loaded into memory to be executed.

- Absolute loaders
- Relocatable loaders
- Linkage editors
- Overlay loaders

Debugging systems for either higher-level languages or machine language are needed as well.



Communications

These programs provide the mechanism for:

- Creating virtual connections among processes, users, Users and computer systems.
- Allowing users to send messages to one another's screens
- To browse webpages.
- To Send electronic-mail messages.
- To log in remotely or to transfer files from one machine to another.



In addition to system programs, most operating systems are supplied with programs that are useful in solving common problems or performing common operations

Examples:

Web Browsers



Word Processors



Spreadsheets



Databases



Games



Application Programs

Categories of System Programs

- ✓ File Management
- ✓ Status Information
- ✓ File Modification
- ✓ Programming Language Support
- ✓ Program Loading and Execution
- ✓ Communications